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ABSTRACT

This proceedings contains 16 papers on recreation and adventure programming, outdoor education, and outdoor leadership training. The papers are: (1) "Beyond Recreation: Our Classroom Is Wild America" (Barry Auskern); (2) "Outward Bound Leadership Model: An Exploratory Study of Leadership Variables" (Natalie L. Bartley); (3) "'Putting a Little Flavor in Your Outings!' Getting to Know the World of Edible and Useful Wild Plants" (Charles Chase); (4) "Risk Management in High Adventure Outdoor Pursuits" (Jerry Cinnamon); (5) "The Identification and Modification of Situational Fears Associated with Outdoor Recreation" (Alan Ewert); (6) "Outdoor Programming in the Southern United States" (Jim Gilbert and Wayne Taylor); (7) "Winter Wilderness Travel and Camping" (Norman Gilchrest); (8) "Environmental Activism, Public Education and Outdoor Programming: A Union of Necessity" (Terry Hartig and Peter Bowler); (9) "Technical Tree Climbing" (Peter Jenkins); (10) "Leadership: The Development of Self Concept" (Rick Matishak and Lyle Benson); (11) "Survey Compilation: Status and Concerns of the Outdoor Recreation Profession" (Rodney K. Neubert and Julian A. McPhee); (12) "Freshman Wilderness Orientation Programs: Model Programs across the Country" (Marty O'Keefe); (13) "Eagle Mount--Montana's Premiere Handicapped Outdoor Recreation Program" (Curt Shirer); (14) "Successfully Adapting Financially Subsidized Outdoor Programs to 'Pay Their Own Way' Programs" (Alf Skrastins); (15) "Passages: Helping College Students Matriculate through Outdoor Adventure" (Bob Stremba); and (16) "How To Successfully Change from a Financially Subsidized Outdoor Program to a Pays-Its-Own-Way Outdoor Program" (David J. Webb). Appendices include descriptions of conference presentations and events, a list of conference participants, and biographical information on presenters. (KS)

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Colorado State University

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"Life Beyond Walls"

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BEYOND RECREATION: OUR CLASSROOM IS WILD AMERICA

By

Barry Auskern, Guide
National Audubon Society Expedition Institute

ABSTRACT:

The Audubon Expedition Institute takes its students out of the traditional classroom setting and brings them into the world of nature to learn about the environment. We believe that teaching people outdoor skills is only the first step in helping them to form a closer relationship with the Earth.

Introduction

The average American is spending 95% of his or her time indoors, protected and insulated from nature. When we think about the environmental crises we are facing-- acid rain, the Greenhouse Effect, the destruction of the tropical rain forests -- we are destroying the outdoors. We spend so much time living indoors, that as a culture we have almost totally severed our ties with the outdoors, with nature. We are so used to spending our time in sterile environments that we lose sight that there is another way to live.

So our relationship with the Earth gets out of balance. Instead of thinking about how we can live in harmony and peace with the Earth, we are more concerned with cars, microwave ovens, VCR's and electric hair dryers. Yet, we never (or rarely) stop to consider the impact that these so-called necessities have on the planet. We view the Earth not as our home, to be treated with respect, but as a resource, to be exploited, developed and consumed.

The only way to develop and nourish a relationship with the Earth is to spend time outdoors learning to get to know her. It is not going to happen through the news on television or a Jacques Cousteau special. Those programs might educate us to a certain degree, but they are not going to transform us. Change will occur only when we stop spending so much of our time indoors in boxes and start spending more time outdoors getting to know the Earth.

When we discuss recreation, we need not talk about the word in the everyday sense, for example, about someone who plays 18 holes of golf on a manicured golf course in the middle of suburbia. What we need to talk about is recreation in the fullest, deepest sense of the term -- literally, a re-creation, a renewal, a rebirth. I am not only talking about a re-creation of one's sense of self about re-creation of our relationship with the Earth. The first thing done at the Audubon Expedition Institute in terms of teaching people about the environment is that we get them as far away from a traditional classroom as possible, and we bring them into the outdoors. Then we let the Earth take over. Nature becomes the teacher and we become her students. If we learn about geology, we hike in Rocky Mountain National Park or go backpacking in the Canyonlands. If we study bird behavior, we go bird-watching in the Everglades. To learn about alpine ecology, we spend a week backpacking in the Big Horn Mountains of Wyoming. This is not to say that we do not use field guides or textbooks, films or ranger programs, but the bottom line is that people learn most about the outdoors by being there, by looking, listening and participating with the natural world. It is not just facts, it is a relationship that is developing. Audubon students do more than just learn and memorize the geological history of an area; they develop a feeling or an affinity for a certain place.

One of the first things we try to work with at the Institute is to get away from the concept of "Man against Nature" -- which is a way of saying that all of us belong to a culture that is literally at war with the Earth.

Yet what really is a concern is a macho "man against nature" mentality in outdoor recreation programs across the country, in programs that are ostensibly teaching people how to live with Nature and not in opposition to her. Sometimes the examples are subtle, sometimes the attitudes are more blatant. Many times on different climbing expeditions the talk is about "attacking the mountain" or "conquering the peak" -- a sort of vocabulary that is often common among many climbers. They make it sound like a war rather than a healthy relationship with the Earth. Where is a sense of respect of the mountains? Of humility? Of awe? These sacred sites are not conquered; they have barely been touched.

Now all climbers do not feel this way, nor is mountain climbing in and of itself some sort of negative activity. Many mountaineers have a respect and real sensitivity for the mountains. But a lot of these attitudes are unconsciously perpetuated by the whole climbing industry -- by instructors, magazines, or television specials on climbing -- and as long as these attitudes persist in our culture, we are going to continue to have serious problems in terms of how we relate to the Earth as a whole.

In a larger sense, working with people is necessary to instill in them some sort of environmental ethic that is both respectful and caring. People need to become sensitive to their impact on the planet and learning how to minimize that impact. By working with people's attitudes and value systems we, as outdoor educators, have a primary responsibility to teach and promote these values to the people we work with. We need to move beyond the idea that the outdoors is simply our recreational playground where we can do what we want, and we need to move toward an environmental ethic where the land is treated with care and respect. At the Audubon Expedition Institute, we take students who have never backpacked before, and bring them into parts of the country that are still relatively untouched by human impact. The first thing we do is to talk about "back-country etiquette;" and how we can minimize our impact in the wilderness. This discussion goes on to two different levels. A lot of what we talk about is fairly mechanical; for example, packing out trash, keeping a clean campsite, burying human waste and similar topics. At the same time, we talk about these same issues on a deeper, more philosophical level. Why is it important to not litter a base camp with food scraps and bits of plastic and paper? Why is it important to leave a clean campsite? What is the impact on animals who live in the area? And why do we need to spend time talking about these issues?

There are not any hard and fast answers to these questions. The answers come down to what is appropriate and what makes sense. These are value judgments being made here. Those who bring people into the backcountry have a special responsibility: to teach students how to live and travel in the wilderness sensibly and unobtrusively -- this should be at the heart of any outdoor recreation program. The whole idea of an environmental ethic says that there is more to outdoor recreation than just having fun -- that there is a responsibility that comes along with being in the backcountry, especially if we want to remain unscarred and undisturbed for the future. (That is why we spend so much time on AEI talking and working on these issues-- to preserve the wilderness for the future.)

As we bring people into the outdoors, whether through mountaineering or backpacking or winter camping, and as they are taught an environmental ethic, not only do they become more sensitive to what is going on in the backcountry, but they also become more sensitive to environmental issues happening all over the world. In other words, people who are being taught to live and travel in the backcountry as gently and respectfully as possible, do not just leave their ethics in the woods. They take these values home with them and start applying them to everyday life. After all, what good does a sense of environmental ethics do if we only practice them a week or two a year? Along with developing an environmental ethic comes a whole set of questions. How do we perceive the planet upon which we live? How do we look at it? What is our attitude towards the Earth? For some, these might seem like odd questions to be asking. After all, most of these attitudes and values are so entrenched in our culture -- they're so invisible -- that we do not even recognize them, let alone question them. Yet they are important questions to be asked because ultimately the fate of the Earth rests on the answers. These are questions that we return to again and again at the Audubon Expedition Institute.

Most of western civilization looks at Earth as a resource, as an almost unlimited supply of raw materials. We look at the oceans in terms of how many people they will be able to feed in the future. We look at forests in terms of how many board-feet of lumber they will provide. We study the geology of the Rocky Mountains and fantasize about how many minerals lie waiting to be tapped. However, does looking at Earth as a resource give us permission to over fish the oceans, to clear-cut our national forests, or to strip-mine for gold and silver?

Part of our problem is rooted in attitudes towards the Earth and the way we treat her as a non-living, dead object. We have a "dead Earth" mentality, and this attitude permits us to do all sorts of things to the planet that make no ecological sense. After all, if an object is dead and without feeling, one can basically manipulate it, exploit it and consume it as one pleases. That is precisely what we are doing to the Earth today: manipulating, strip-mining, clear-cutting and poisoning it to death. All we have to do is look at the environmental quality of our own lives -- the air we are breathing, the water we are drinking and we begin to see the end results of this "dead Earth" mentality: i.e., polluted air, chemically contaminated water, and fewer and fewer acres of wilderness left standing each year.

One of the new ideas played with on Audubon Expeditions is actually a very ancient idea; the idea that the Earth is not dead at all but is, in fact, a living organism. For tens of thousands of years, people have believed the Earth was their Mother, and she was imbued with a spirit. These people who believed they were a part of a living Earth treated her with respect and reverence, and developed a lifestyle over the years which was harmonious and compatible with a healthy planet. That is why indigenous people of the world never had to deal with issues like acid rain or the Greenhouse Effect. They never had to deal with environmental crises because they were living a lifestyle that was in tune with the patterns and fluctuations of the Earth.

In the late 1970's, the British astrophysicist, Jim Lovelock, came up with the Gaia Hypothesis in which he suggested the Earth itself was a living organism. People worldwide got excited by this "new" idea, not recognizing that in fact the idea had been around for about 30,000 years! In 1985, the Audubon Expedition Institute sponsored a conference titled, "Is the Earth a Living Organism?" which brought together over 200 speakers: geologists, physicists, Nobel Prize winners,, Native American speakers and philosophers. Since then, on Audubon Expedition Programs time is spent not only examining the Gaia Hypothesis in terms of the scientific data, but also looking at the ethics behind what it means to live on a plant that is alive, and what it means in terms of how we should be living on the planet.

The concept of the Earth being alive might seem strange, foreign, or even weird, but it initiates exciting possibilities in terms of working with people and introducing them to the outdoors. It changes our interactions with the Earth and it opens up the idea of forming a relationship with the natural world. One cannot form a relationship with something that is dead or lifeless, but one can form a relationship with something that is alive and vibrant. And that is where the living Earth ideas become exciting and challenging. On Audubon Expeditions people who have had very little prior wilderness experience are taught how to dress and stay comfortable in all weather conditions, how to use a backcountry stove, how to pack backpacks, how to set up tents. But these things are just the very beginning. When people are instructed in the skills to comfortably camp and travel through the backcountry, a hole new world for people -- the real world of rocks and trees, waterfalls, shooting stars, mountains and sunsets is opened up. The goal is for people to simply get to know this new world; how it feels, smells, and sounds like in the middle of the night. This is the world that has been around for 4 1/2 billion years, constantly changing, growing,, evolving -- and it is our home -- yet we barely know it, let alone understand it.

There has been a large amount of research over the past 30 years in the fields of child and developmental psychology, and one thing that researchers are recognizing is that it is tremendously important for a newborn infant to bond both emotionally and physically with another human during the first few weeks of life. Without that bonding and feelings, a child is stunted and may run into social, emotional, or psychological difficulties later in life. People who never go through this bonding process during the primary stage of life never get to fully develop their capacities as human beings and may have difficulties as they mature in forming healthy relationships with other people.

What happens then with people who never have the opportunity to bond with the Earth? What happens to a generation of children who never get to form a healthy relationship with Nature? How are these children going to grow to be able to care about the Earth when they never go to feel that relationship? And what about our culture as a whole that individuals are so caught up with the trappings of technology that they rarely get to bond with the Earth? It is no wonder that our society has grown up with such a sick, destructive relationship with the Earth. How are we ever going to relearn, as a society, a healthy relationship with the Earth when the average American spends 95% of their life living indoors. Those of us in the field of outdoor recreation are in a special position in that we get to bring people into encounters with Nature where this sort of bonding can take place. With that bonding, as more and more people begin to relearn their attachment to the Earth, we have a chance.

OUTWARD BOUND LEADERSHIP MODEL: AN EXPLORATORY STUDY OF LEADERSHIP VARIABLES

by

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ABSTRACT:

This article provides the theory behind a conceptual model of leadership variables which relate to student course outcomes. The results of the leadership styles, personality, gender, and previous soft skills training, experience and education of Colorado Outward Bound School instructors, and their students course outcomes are presented.

*Previously published in the Bradford Papers Annual Vol. III (1988) under the title "Gender Issues in Outdoor Adventure Programming: An Outdoor Leadership Model Exploring Gender Personality, Soft Skills Training and Leadership Style of Outdoor Leaders."

Introduction

In the Experiential Education field, there is a twofold debate emerging concerning leadership. One aspect addresses the issue of gender awareness and the development of male and female characteristics in leaders. The other aspect concerns the possible imbalance of hard skills and soft skills of leaders. Both aspects are current issues for Outward Bound schools as well.

Masculinity and Femininity

Though the outdoors have traditionally been depicted as a male domain, there is an increasing number of women students and women leaders. Gender issues are starting to come to the forefront. These issues include: the establishment of expected group and individual behavior, sex-role modeling, the combining of feminine and masculine values, "gender issues" awareness training for staff, participants' impression of leaders' soft skills and hard skills, and the role of gender related personality traits in program philosophy and leaders' behavior. Knapp (1985) felt that the Experiential Education profession should explore whether gender related personality characteristics should be developed in the leaders and the participants and how these characteristics could be developed.

The concept of psychological androgyny dates back to the Orient and the Occident (Marecek, 1979). Androgyny, the combination of the best of stereotypically male and female traits for maximum adaptability, has only recently been suggested as healthy. It is suggested "that traditional ideas of gender-appropriateness constrain men and women from developing broad flexible behavior repertoires and thereby limit human adaptability" (Marecek, 1979, p. 241). An androgynous leader would be able to respond to participants in ways that are not rigidly assigned to either sex. The ideal outdoor leader would attempt to encourage student growth in personality domains of both masculine and feminine traits.

Bem's (1974a, 1974b, 1981) work on the Androgyny theory and Gender Schema theory suggests that males and females acquire a cognitive structure (schema) of a network of associations that are connected to concepts of masculinity and femininity. Gender schema are standards by which people evaluate their own sex. There are differences between individuals in the strength of their gender schema and in the extent to which masculinity or femininity is reflected in their attitudes, attributes, behavior and evaluation of gender related events in their lives. Thus, an outdoor leader's gender schema might influence his or her leadership style and the experience that participants have on a course. The Androgyny theory and Gender Schema theory may have implications for counseling skills, training for outdoor leaders and instructors, and for program design and implementation.

Soft Skills and Hard Skills

Knapp (1985) suggested that "one goal must be to develop well-balanced leaders who can demonstrate both hard and soft skills with equal competence" (p. 17). Soft skills can be thought of as the competencies necessary for effective interpersonal helping skills, as opposed to hard skills which are technical competencies in mountaineering, first aid, logistics, and others. Soft skills presumedly are used by the outdoor leaders to teach or help the participant to develop psychosocial coping skills and are sometimes perceived as being gender related.

Larson (1984) referred to the importance of soft skills, stating that psychological skills training is a reflection of a fundamental shift occurring between human services and the larger society. The public is increasing its interest and desire for psychological and other personal growth services. Thus in the context of experiential education, students may come to an outdoor adventure program with a desire to learn skills to enhance the quality of their own and others' lives and solve problems, not just to acquire technical outdoor skills.

Psychosocial coping skills help students to adapt and perform in a variety of situations (Larson, 1984). Specific psychosocial coping skills that are appropriate to teach in outdoor leadership situations include relaxation, active listening, planning, and assertiveness. Many of these skills involve problem-solving skills. In experiential education programs, students might look to male instructors for some skills and to female instructors for other skills.

Outward Bound is one well-known program that addresses personal growth and self-awareness issues. The Outward Bound School's major goal is to create an environment (physically, socially, and psychologically) conducive to enabling students to learn more about themselves and their potential, and to develop self-confidence and compassion through experiences in group communication and decision making, and through coping with fear, uncertainty, and stress. Many other outdoor programs have been developed around the Outward Bound philosophy.

An attempt to identify the soft skills for outdoor leaders was made by Buell (1983) and include counseling, human service, and human development competencies. Buell described these competencies as the ability of leaders to work with other human beings. A supportive and helping relationship is developed through the use of specific helping and counseling skills and principles. The outdoor leader has the ability to assist during psychological crisis. Buell warned that leaders need to know the difference between counseling and therapy and to stay within their level of training and experience. Outdoor leaders and instructors, through the intensive contact with the participants and the relationships developed during an outdoor adventure program, have a great potential for using their soft skills to teach their participants psychosocial coping skills.

Swiderski (1987) proposed that hard skills, soft skills, and conceptual skills are aspects of competent outdoor leaders. He suggested that soft skills and conceptual skills are neglected components of Outdoor Leadership. Outdoor leaders can have an impact upon their participants' potential for personal growth. This may be done unknowingly through the leaders' personalities and gender, or through the conscious application of their soft skills. The importance of soft skills can be understood in reference to Rogers' theory of the role of a counselor or helper. Carl Rogers, the well-known counseling theorist, outlined the facilitative conditions that help to create a nonthreatening atmosphere which allows for self-exploration and the increased likelihood of change in self-concept (Long, 1978). These conditions can be created on an outdoor course and include emphatic understanding, respect, and genuineness.

Walsh and Golins (1976) summarized the diverse skills that outdoor leaders are required to use:

> By necessity of running operations in a special environment, such as the outdoors, the instructor is a trainer. . . . He must be able to transmit the skills necessary for functioning in the environment. Not only must he be technically proficient at the skills encountered in negotiating the physical environment, he must be able to facilitate the affective growth of the individuals through their mastery of skills. This requires the ability to be emphatic, genuine, concrete, and confrontive when necessary. (p. 11)

Outdoor Leadership

Buell (1983) reflects the thoughts of many writers in the Leisure Service profession concerning the importance of leadership when he stated: "Leadership is the single most critical aspect of conducting outdoor programs" (p. 1). Currently there seems to be an increasing interest in evaluating outdoor programs and leadership in order to provide qualitative/quantitative documentation (Hendy, 1976; Easely, 1986; Phipps, 1988; and Tisdel, 1986). The study of leadership theories is potentially valuable in the evaluation of outdoor leadership and the understanding of the interrelatedness of gender and soft skills and leadership.

It appears that numerous theories exist that attempt to explain either the facts involved in emergence leadership or in the nature of leadership and its consequences. Many models have been proposed which attempt to reconstruct the dynamics of leadership using selected variable thought to be involved in leadership.

A brief survey of the leadership theories include: great-man theories, trait theories, environmental theories, personal-situational theories, psychoanalytic theories, leader role theory, role attainment theory, reinforced change theory, path-goal theory, contingency theory, humanistic theories, exchange theory, behavioral theories, and attribution theory. Bass (1981) stated that every procedure known to social science in general has been applied to the study of leadership.

The Ohio State Leadership Studies spurred a variety of theories on leadership styles and research investigations to test the theories. The study of leader behaviors became a major focus. Many researchers used various terms to describe a leader with high concern for the group's goal, including task oriented, concerned for production,, goal achieving, work-facilitation and goal emphasizing, production oriented, and production emphasizing. The above terms describe the dimensions of initiation of structure as identified in the Ohio State Leadership Studies. Similarly, many terms have been used to describe a leader with a high concern about the group member including emphasizing employees, relations-oriented, concerned for group maintenance, concerned for people, interaction-oriented, and in need of affiliation. These items describe the dimension of consideration, as identified in the Ohio State Leadership Studies (Bass, 1981). Leaders differ in their concern for group goals and concern about group members, and in the methods they use to pursue group goals and attempt to maintain positive open relations with followers.

The Ohio State Leadership Studies have isolated two dimensions that describe leader behavior: consideration (person) and initiating of structure (task). These terms have become widely used and many studies have been produced. The behavioral dimensions are frequently measured by one or more of the Ohio State Leadership Scales which include the Leadership Behavior Description Questionnaire (LBDQ), the Leadership Description Questionnaire-Form XII (LBDQ-XII), the Supervisory Behavior Description Questionnaire (SBDQ), and the Leadership Opinion Questionnaire (LOQ). The Leadership Scales could have potential application to the measurement of outdoor leadership styles. The work of Sergiovanni, Metzcus, and Burden (1969), the work of Pfeiffer and Jones (1974), and the work of Phipps (1988) are three examples of adaptations of the Leadership Scales for understanding individuals' leadership styles in the work place.

A theoretical model of outdoor leadership was developed (Bartley, 1987) in order to investigate the potential relationship between gender, schema (personality), previous soft skills training, leadership style and course outcome. The leadership model is presented in Figure 1. There are positive traits from both sexes that are needed in the use of soft skills by an outdoor leader or instructor. Valued masculine traits would include risk taking, initiating, and assertion. Valued feminine traits include caring, expressing feelings, empathizing, and intuition. What role do such traits play in determining soft skills, leadership style and participants' course outcomes?

METHODS

Variables in the Model

The Gender variable reflects the increased interest of practitioners and researchers in how gender interacts with leadership styles and leader effectiveness. Gender is hypothesized to act on course outcome indirectly. Personality and training are though to act on course outcomes directly and through leadership style.

The Personality variable reflects the traditional use of personality traits in leadership research. The application of the Gender Schema Theory through the use of the Gem Sex Role Inventory, a measurement of sex-typed and androgynous individuals, has not been researched with outdoor leaders but has implications for leadership style, training, and course outcomes.

The Soft Skills Training variable refers to the previous soft skills training, education, and experience of the leader. This was measured using a questionnaire developed especially for this model. The type of training needed for effective leadership and the relationship of training to course outcomes is generating great concern among practitioners and among researchers.

The Leadership Style variable is theorized in this model to be a composite of the above three variables which have been isolated for analysis in this study based on theoretical arguments from researchers and practitioners. Leadership style was represented using the Task and Persons Leadership Style modification of the LBDQ Initiation of Structure and Consideration Model. This conceptualization of leader behavior has a long history in research application, with valid and reliable test instruments based on this theory.

The criterion variable Course Outcome represents the interactive effects of the four above predictor variables. Course outcome, as perceived and measured by the course participants, is the most critical consideration of the effect of leadership and the relationship of leadership in the achievement of a programs' goals. If the participants gain in the targeted areas, then the programs' goals have been met. The leadership provided by the program may strongly influence the realization of program goals. Course Outcome was measured with the Outward Bound Impact Study Inventories, resulting in six summated subscales.

This study was an exploratory attempt to understand the role of gender-related personality traits and soft skills on outdoor leadership styles and course outcomes. The model was an oversimplification of leadership; however, it is not intended to serve as a model of the complex and dynamic leadership situation or process. Instead, it was designed to examine major variables that have been previously ignored in outdoor leadership efforts, and are variables of practitioners' current concerns.

To investigate the relationship of the variables in the model shown in Figure 1, an exploratory field study was conducted on twenty-nine mountain course instructors at the Colorado Outward Bound School (COBS) during the 1986 season. The instructors were precourse tested on the Outdoor Bound Impact Study (OBIS) Inventory, the Bem Personality Inventory, the Leadership Behavior Questionnaire, Form XII (LBDQ-XII), and Soft Skills Background Questionnaire. Seventy-nine students attending the COBS 23-day mountain courses served as the raters of the instructor leadership style and as raters of their own individual perception of their course experiences. The students completed the precourse OBIS Inventory to assess course outcomes, coupled with the LBDQ-XII on their instructors. The five supervisors of the instructors also completed postcourse OBIS and LBDQ on the instructors.[1]

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[1] The study was part of a multiyear project known as the Outward Bound Impact Study (OBIS). The goal of the OBIS project was to determine the impact of the standard Outward Bound Course. The project director was Dr. G. Christian Jernstedt, Department of Psychology, Dartmouth College. Dr. Stephan C. Bacon, Program Research and Development Director at the Outward Bound (USA) national office, Dr. Jernstedt, and the Colorado Outward Bound School made it possible for the study to contribute to the ongoing Outward Bound Impact Study.

Results

As general profile, instructors in the study had a relatively high level of education, were in their late 20's, had previous experience as an Outward Bound instructor or assistant and were somewhat similar to the instructors who participated in an earlier OBIS study at the Hurricane Island Outward Bound School (HIOBS) in 1984 through 1985. The student evaluators who participated in the COBS study appeared to be similar to the students who participated in a similar study at HIOBS in 1984 through 1985. Specifically, similarities were observed on 12 of the 14 personality variables measured by OBIS, and in the age of the students.

The primary hypothesis was that leadership style, as a composite of gender, personality, and soft skills, affects student course outcomes. Multiple regression analysis, t-tests, chi-square, and Pearson correlation coefficients were used to analyze statistical relationships among the variables.

Six different course outcome subscales were used to evaluate the effect of leadership style, gender, personality, and soft skills training on students' course outcomes. Three of the subscales were found to be impacted by leader variables other than leadership style. The impacted subscales were self-deprecation, sociability, and hopelessness.

The direct effect of leadership style on the six course outcome subscales were not supported by the results of the exploratory field study. Variables other than leadership style had some effect on students' course outcomes. When controlling for the students' precourse subscale scores which accounted for most of the variance, instructor personality and soft skills training had small but significant direct effects on course outcomes. The instructor's gender was found to have some effect on leadership style.

Within the limitations of this study, the following findings were indicated. The gender schema personality traits and previous soft skills training of the instructors were associated with the students' course outcomes. Leadership style was not significantly associated with the students' course outcomes. The gender schema personality traits of the instructors were associated with soft skills training. A trend emerged that gender did in fact have some effect on leadership style. A summary of the results are provided in Figure 2, where a solid line indicates the potential direct influence of one variable on another. A broken line indicates the potential indirect effect, where a variable has an effect on a variable by influencing another variable, which in turn affects leadership or course outcome.

Discussion

The following recommendations are made based on the field observations of this author/instructor, the theoretical body of literature, and the analysis of the data from the present study.

While the evidence is limited, it appears that Outward Bound schools and Experiential Education programs should consider actively pursuing the development of a soft skills training curriculum for instructors. The recent work of Swiderski (1987) has identified components of soft skills and conceptual skills that could be focused on during leadership training sessions. Bacon (1983) has initiated efforts in soft training skills through nationally available workshops and the publication of the book, The Conscious Use of Metaphor in Outward Bound. Bacon's book provides insight into the soft skills an instructor can develop in order to enhance the potential for the students to experience personal growth. While personality and gender play a role in course outcomes, the outdoor leader's soft skills abilities may have a greater influence on course outcomes. Soft skills, as an ability, has the potential to be learned, more so than personality and gender, or leadership style, and is more modifiable than personality and gender.

Additional soft skills assessment methods need to be developed and validated. The method could take a number of different forms. The Soft Skills background Questionnaire could be further developed for accuracy, consistency, and predictive ability. A subjective, qualitative approach, such as the use of participant observers in the field documenting the skills the instructors display, could be used. Content analysis of instructor and/or student journals, with a focus on human relationship interactions or the use of situational role-playing, with an observer rating the skills of the instructor displayed are other possibilities.

The interaction of outdoor leadership style and course outcomes is still in an early stage of exploration. Further research in this direction is still needed. The task/person adaptation of the LBDQ-XII (Sergiovanni, et al, 1969) should be considered for use in future studies. Modification and revalidation of the instrument may be needed to improve the readability and appropriateness of the inventory to outdoor program settings. In addition, consideration should be given to the use of other leadership models and inventories, such as the models identified by Phipps (1988).

The assignment of instructor pairs to course should be carefully considered by the supervisor. Striving for a potential balance of instructor gender, personality schema, leadership styles, and soft skills ability may have a greater impact on students' course outcomes than having a balance of a male instructor and a female instructor. Assignment of instructor pairs and training can, perhaps, enhance the instructors' influence on students' course outcomes. A unique approach to the assignment of instructors to students might be to first test the students on personality traits and personal needs, then on the basis of the results, match the students with the instructors whose personality traits, soft skills abilities, and leadership styles might best serve a particular group of students.

In summary, leadership is the critical component of all outdoor programs. There is currently some lack of certainty as to (a) what competencies are needed, (b) what leader styles are effective, (c) what proportion of hard skills and soft skills cause desired course outcomes, (d) what role androgyny/gender schema should play in program philosophy and leaders' behavior,, and (e) what impact gender has on leaders' styles and course outcomes. Hopefully the information and insight gained can be used to further the understanding of outdoor leadership variables.

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"PUT A LITTLE FLAVOR IN YOUR OUTINGS!"

Getting to Know the World of Edible and Useful Wild Plants

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ABSTRACT:

Oftentimes when lay persons or even recreation and leisure professionals engage in discussion about "outdoor recreation," it is not uncommon for the focus of the discussion to drift to the more spectacular and trendy components within the field such as hot air ballooning, hang gliding, mountaineering, free-climbing, white-water rafting and spelunking.

As professionals and practitioners within the field, we need to be careful so as to not let "the tail wag the dog."

The involvement in, and the excitement and learning that can come from outdoor recreation needs to not only be available to all people, but promoted to all people as well. What excites one person in the field of outdoor recreation may not even come close to exciting another. What should please us, however, is the fact that our field is such a diverse one that we, for all practical purposes, have that special "something" for just about everybody.

One of those special "somethings" is the outdoor recreation pursuit of edible and useful wild plants. Here is an area that has a track record of having ubiquitous appeal. No matter what the demographics portray, things like age, gender, education, occupation, or any other such element have no noticeable restriction on the appeal of edible and useful wild plants to our populations of outdoor recreators.

Here also is an outdoor recreation pursuit that can be an activity or program by itself, in total, or it can be a very attractive complement to a wide variety of

outdoor recreation pursuits, including some of the more trendy and glamorous ones.

Introduction

It would be very difficult to go back in time and document the first use of wild plants. There's no doubt that cave men made use of their available flora; we know that selected species of plants were widely used during Biblical times; and, we are also well aware of the fact that the North American Indian made much use of wild plants -- for food and medicine.

Even in today's everyday living use of canned goods and dehydrated and freeze-dried supermarket offerings, many, many people still go out into fields, meadows, and woodlands to find and gather their favorite greens and berries. Some people do so as a hobby and some do so because they need the wild species to make a full meal.

No matter where on the continuum of use you place yourself, you would be but one of literally hordes of people of all ages and from all walks of life who find enjoyment, satisfaction, and utility from their involvement with edible and useful wild plants.

Without going into a very lengthy discussion of such things as species identification, ecological concerns, procurement ethics, preparation techniques, and so on, there are a couple of things that will probably be helpful to anyone involved in instructional or recreational programs using edible and useful wild plants.

1. First time involvement with plant species identification is, to say the least, confusing to the forager. Don't overwhelm participants by immersing them in too many species at one time. It is far better to minimize the number of species being used and use them in every conceivable manner. In many cases single species, such as cattail or common milkweed, will provide hours and hours of participant involvement and offer everything from flour substitutes and salads to vegetables and chewing gum!

2. Have each participant (or small group of participants) be responsible for the identification of a single species. Others in the group should have to come to them for the final identification check.

3. Use good judgment when procuring your selected species. If a single plant exists, simply use it as a study plant in a natural setting -- do NOT pick it. Look around generally you'll find many more a short distance away from which you can procure your needs. Also, pick only what you intend to use -- that includes numbers AND parts. If you only want the young leaves, pick only the young leaves. There's no need to take the entire plant.

4. Do NOT expect your prepared wild plants to taste like your everyday peas and carrots. True, there will be some things that closely resemble an "off-the-shelf" item, but usually each species will have its own distinctive and oftentimes delightful flavor.

5. Serve your prepared plants with appropriate condiments. Use a little butter if need be, sprinkle with salt and pepper, and even go so far as to serve your wild vegetables in a cream sauce. After all, don't we generally put butter or gravy on our potatoes as well as salt and pepper our vegetables. And don't forget a choice of dressings for your wild plant salads.

6. Finally, don't expect wild edibles to taste like anything else. Enjoy each species' indigenous qualities for what they are!

General Rules

1. Know your plant and how to prepare it.
2. Learn and try one plant at a time.
3. Eat a little at a time.
4. Know the edible parts of your plants.
5. Start with common varieties.
6. Don't gather at roadsides -- sprayed areas.
7. Don't expect your wild plant to taste like something else.

Be Cautious of Plants With:

1. Discolored juices
2. Hairs or spines
3. Bitter, soapy taste

Avoid:

1. Beans, bulbs, and mushrooms

Berry Rule (Edibility)

1. White -- generally avoid use
2. Red -- be cautious; about 50% edible
3. Black/Purple -- generally good

ALL HAVE EXCEPTIONS

Procurement and Preparation Rules

1. Young plants best -- up to 8" tall (any size o.k., less quality)
2. Wash and clean parts
3. Remove large leaf veins, coarse root fibers, etc.
4. Boil
5. Pot-herb -- one to three changes of water

Bulrush

A water environment is perhaps the best place to start any wild plant foraging expedition. Plants are usually numerous -- in numbers and species. This plant has a tubular stalk and brown seed head which makes it easy to identify. It will always be very near water. Pull up a single plant stalk and you'll have two parts of the plant to use. One is the basal part of the stalk just before it attaches to the rootstalk. This base part of the stalk is whitish colored. It will probably only be 1"-2" in length but it is crisp, firm and easy to collect. It can be cut up as a salad or it can be cooked as a vegetable.

The root is the other part of the plant to use. It is brown in color and is covered with many rootlets that help anchor it in the ground. Scrape off the brown skin and rootlets and then cook as a vegetable. It contains a considerable amount of starch and may be dried, ground, and used as a flour substitute. Being small in size, however, a good quantity of roots is necessary before you'll end up with a "working" amount of flour.

Cattail

Get to know this plant! You can make entire programs from this single species. First of all, find a good supply of cattails -- generally in or near water-- and then starting in the spring, keep a constant check on the growth stage of the plant because depending upon the growth stage you can have everything from delicious muffins and pancakes to very tasty salads, vegetables, including corn-on-the-cob, and an excellent flour substitute.

This is one of the wild edibles that seems to have a ubiquitous appeal to plant foragers.

Note the color and structural design of the "cattails" -- they are the ones with dark green on top and light green on the bottom. The top part will eventually blow away and the bottom is that which you'll see later on in the year as the brown cattail.

Sometime in April (this will vary of course depending on location) check the cattail plant for green spikes. Use the lower solid part of the spike as a substitute for corn-on-the-cob. Simply cut it from the stalk and boil as you would corn. 15 to 20 minutes is usually sufficient. Add butter and salt for a real wild edible treat! You'll even end up with a cattail "cob."

Wrap your hand around the dark green section and strip it off the core. Almost magically the green turns to a handful of miniature golden flowers. Use these flowers by themselves (or add them to regular wheat flour in ratios to your liking) and then use it in any recipe for pancakes,, waffles, muffins, or bread and you'll have one of the most beautiful and palate pleasing baked goods you could wish for.

Collection of these flowers is very easy. If you wait too long you might miss the flower stage of the cattail, but all is not lost because the next stage is the development of the pollen. Instead of stripping off the flowers, your collection technique is now to shake off the pollen. It is best to gently place the cattail top in a bag and then shake the pollen into the bag.

The pollen is a bright golden color and like the flowers it may be used by itself as a flour. A blend of 1:1 is usually very good. Your baking efforts with the pollen will result in a very tasty and rich-flavored baked item.

At the same time you're collecting pollen and flowers, there is a part of the cattail plant that provides an outstanding salad or vegetable. To procure this delicacy, grab hold of the cattail near the ground and pull straight up. With a kind of suction sound you will be able to pull up the plant. You have not removed the root at this time, only the stalk and leaves. At the bottom of the stalk is a 6"-12" section of white, tender, crunchy and certainly tasty cattail. You'll have to peel off a couple of layers of the outer green, and then you'll have it. It can be eaten as a nibble, as a salad, or cooked as a vegetable. It is good!

The roots can be used as a cooked vegetable but usually are better received by the "edibles eaters" when they are used as a flour substitute. After you've gathered the roots (they're rather fibrous), clean them and scrape off the outer brown covering. In most cases, you'll be able to peel the outer covering off thereby ending up with the starchy core of the rootstalk. For a good flour substitute simply pull the fibers apart and let them dry in sunlight or a low temperature oven. Then shake out all the dried substance. Separate and discard the fibers. Now blend water with the "flour" until you have a paste-like consistency. Now form this into little crackers and bake in an oven or on a reflector oven at a campfire. You'll like these!

Curled Dock

This is a large roadside plant that is easy to identify and is very prolific. It gets its name from the curled edges that are a characteristic of the leaf. Probably long before you see the leaf you'll see the towering seed heads. An important skill to develop in plant identification is to be able to spot indigenous characteristics of a species. The seed heads of Curled Dock are good examples.

Although not used as much as the leaves, the seeds offer several uses. The most common is to use them green by putting them in soups and stews to thicken the broth. In the dried state they can be ground up and used for flour. They can also be cooked up as a type of cereal substitute. Many people collect the dried seeds in fall and put them out as bird seed through the winter.

Common Milkweed

Two items of importance must first be explained about milkweed. #1 - milkweed is an exception to the general rule stating that plants with a milky sap should not be used as an edible. This plant is in fact one of the best edible plants you'll find. However, you will probably want to prepare your chosen parts using one, two, or more changes of water -- to relieve the initial bitter taste. #2 - in its early stage of growth, in the early spring, milkweed can be confused with Dogbane (Indian Hemp) which is a poisonous plant! If you find it difficult to distinguish between the two simply wait a few days, do your botanical homework, and the differences are unmistakable. All you will have given up is the use of the early spring shoots. Don't let that bother you, there's lots more to come!

One of our most common, most useful, easy to procure, multi-use plants -- and it's tasty! It's also probably one of the most overlooked edible plants. It is not uncommon to find Common Milkweed growing in large patches and when in bloom the large pink flowers are like a sign-post. The little flower buds are plentiful, easy to collect and when cooked as a pot herb (at least one change of water) you'll have your own wild broccoli!

The flowers are of course the result of the buds opening. Although some people cook the flowers the same as the buds, a more common use of the flowers is to gather the dew (early in the morning) that has collected overnight and use it as a syrup substitute or a sweetening agent. There is usually quite a bit of effort required to collect a usable amount.

Milkweed is one of those plants that has a very thick milky sap. Break a leaf or stem or any part of the plant and a generous amount of the sap exudes. Although it's often less than totally successful, it's a fun activity to break several leaves, allow the sap to exude and stiffen in the sunshine, and then gather it up and continue to dry it, if necessary, to a state where it can be used as a substitute for chewing gum! Don't overlook the young leaves of this plant as an excellent pot herb. Many people say this is their #1 choice of all wild edibles. In a cream sauce they are well received by most everyone.

What is probably the most overlooked edible part of the milkweed is the milkweed pods. Use them when they are no larger than 1" in length. The large mature pods are NOT edible. Pick the young pods, boil them in a change of water (as a pot herb), serve with butter and salt, and if you're like most people you'll think you're eating asparagus!

Mullein

This is one of the very common plants that provides a fun use right where you find the plant. The first year rosette leaves are large and very soft and fuzzy. Botanically, it is called a pubescent leaf. When hiking along with your group and you come upon these rosettes, stop your group and have them take their shoes off. Each person then fits one or two of the thick soft leaves in the bottom of their shoes. The leaves will last up to a full day on a normal hike -- and they really make great cushions!

The familiar "roadside soldier" is the second year growth of the Mullein. They make excellent throwing spears for field activities. Keep in mind that where you find these "soldiers" you'll also find the rosettes with nature's innersoles.

Plantain

Although somewhat limited in its uses, this plant is so common that you'll be able to put it on your table almost anywhere you are. It will make you a decent salad or a good vegetable. In fact, it's rated very high by many edible foragers.

Leaves - this is the only part of the plant that is used but there are varied ways of preparation. Try them all to see which you prefer.

As a salad component use only the very young leaves and be certain to not use the stems -- use only the leaf blade. If you use leaves other than the very young you must strip the fibers from the leaf or else you'll have a very "chewy" salad. The veins are quite pronounced-- you'll know them when you see them!

As a vegetable you should again do all that is possible to remove the leaf veins. Cook them 20 to 25 minutes to achieve greatest palatability. As in the case with many greens, you'll lose much of the bulk during cooking so when you collect and prepare, use at least half again as much as you think you'll need.

For a unique offering try serving plantain tea. Although dried leaves seem to work better, fresh ones can also be used. Use the general rule of "a handful of leaves per cup" when making your tea. Steep the leaves for 15 minutes in boiling water. Sweeten to suit your taste. It has its own distinctive flavor, but no matter what you think of it, it is stuffed with vitamins.

Sumac

Whenever you find this familiar shrub growing afield and it has a cluster of red berries, you can comfortably use them without fear of it being Poison Sumac. The poison variety has greenish-white berries that hang down and that variety generally grows in a very wet environment.

The berries are best in the fall at which time they can be sucked on for a tart taste treat. They can also be collected, tied in a cloth, and allowed to steep in hot water to make a good lemonade. Another way to make a good drink is to fill the basket in a coffee pot with the berries (use a filter) and then perk as you would a pot of coffee. The result is a pleasing pink liquid, rather tart in taste. Most people will add a sweetener.

Wild Grape

The fruit of the Wild Grape is well-known to most, but the plant also has a couple of other interesting uses frequently overlooked. One of these is to take the leaves and use them as a food wrap or as a stuffing in your baking. The leaves impart a very pleasing flavor. Try them on a campout the next time you bake fish in clay. Before encasing the fish with the mud/clay, stuff the eviscerated cavity with Grape leaves.

Also look closely and note the little leafless tendrils that grow from the vines. Pick the young tender ones for a delicious nibble or for a tangy addition to any salad offering.

Dandelion

Young leaves - note the emphasis on young. As the leaves mature they become somewhat bitter and preparation as a vegetable is not recommended for eaters who may be offended by bitter qualities. If using mature leaves simply treat them as a pot herb instead of a vegetable. This means you must boil the leaves changing water 2 or 3 times.

Use the young leaves in a salad offering or try them as the "stuffing" in a bread and butter sandwich. When preparing salads using wild edibles always use dressings and condiments as generously as you would on your lettuce or spinach salads. Always offer wild edibles to your guests exactly as you'd offer them any of your other favorite dishes. Your guests are used to salt, pepper, sauce, etc. so use them! Eating wild edibles "straight" should be reserved for survival sessions.

Young or Mature leaves - cook in boiling water and serve as a vegetable (use water changes if need be). Top with salt and butter.

Flowers - the familiar yellow heads should be picked and used as a field nibble. They're really quite tasty! Whenever you use the flower be certain that you do NOT use the green stem portion on the immediate underside of the flower. Also, try sprinkling the yellow flowers into pancake and waffle batter and provide a generous supply for your omelet. Sprinkle the flowers into the cooking omelet or pre-mix them before beginning to cook the omelet.

Flower Buds - try these fried in butter. Use the buds before the flowers open. When you are frying them they should pop open. Serve hot in the "open" stage.

Root Crowns - note here that all you use is the crown; the small section at the very top of the taproot, one-half inch is probably what you'll use. Cook this as a vegetable (pot herb if you deem so). Serve hot with salt and butter.

Root - dig as much of this long brown taproot as you can. Wash and scrape to remove most of the outer rind. Then dry and roast the root. 300 degrees F. for 3 to 4 hours is usually sufficient. The root should break easy and be shriveled from the roasting. Next place the roots in a blender or food processor and coarsely chop/grind for your coffee substitute! It's a strong coffee. If too strong for you, try blending it with regular coffee. To find your favorite "coffee taste" start by using one teaspoon of ground roots to one cup of water. Boil 3 to 5 minutes for starters. Strain if using the "camp" coffee pot or if you prefer, to use the basket in your electric coffee maker.

Stinging Nettle

There's no way you can mistake a nettle plant when you come across one -- even in the dark! Little needle-like hairs are very plentiful on each plant and if you brush against any part of the plant you will probably experience a rather sudden and moderately intense, but relatively short-lived, itching. In spite of this offensive characteristic, you have within your grasp one of the best wild edible vegetable substitutes.

There's a trick to gathering the leaves (young or top growth preferably) while minimizing the irritation potential. Of course you can wear gloves but you can also pick the leaves barehanded. You do so by boldly taking hold of your chosen leaves and extracting them from the plant. Irritation is much more likely when one attempts to gently pick the leaves from the plant.

Leaves - gather your selected supply and cook as you would a pot of spinach. The cooked leaves will take on a brilliant green color. Serve hot with salt and butter. Save the cooking water! Use it for an excellent green tea (not the standard black tea). Sweeten to taste and you have a tasty and healthful hot drink.

This information has been provided as a starting point for interested individuals and groups who want to begin enjoying more of the outdoor environment--specifically, the fun, educational, and nutritious pursuit of edible plants. The recipes and assorted preparations described will provide hours and hours of activity. The selected species are common to most areas and are easy to recognize. By using these species you will be able to collect and prepare wild edible plants almost all year long. Good luck with your foraging!

RISK MANAGEMENT IN HIGH ADVENTURE OUTDOOR PURSUITS

by

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ABSTRACT:

Risk management guidelines are derived using case studies available in the literature. These case studies are examined based on the educational and personal experiences of the author. Guidelines derived in this manner are applied to a model of accident origin that relates environmental hazards and personal factors. The model shows how these guidelines may be used to attempt to avoid future accidents. The roles of judgment, leaders, traditional practices, intra-personal factors, peer pressure, goal orientation, group size, personal limitations, naturally reoccurring periodic hazards, and reoccurring accidents are examined in the development of this model.

Introduction

As an active outdoors person, I am interested in what causes accidents so that I may avoid them. This article begins with a few general ideas about how to proceed and then examines case studies of the accidents and near-misses of people to illustrate causes and to develop guidelines for realistic risk management. These guidelines will possibly can help avoid future accidents.

It is clear that accidents do happen to individuals who have neither the knowledge skill, nor conditioning to be involved in the activity in which the accident occurs. However, competent and highly skilled people with judgment tempered by experience still have accidents. If skilled outdoor persons can get into an accident, so can we all. If we are to participate safely in the outdoors we must learn how to manage risk.

Deriving Risk Management Principles

Managing risk, to a large degree, involves managing human errors related to natural environmental hazards. To manage risk we need to gain knowledge through personal experience, education, and the experience of others. An example of learning from personal experience points out the limitations of deriving risk management principles by this method. On New Hampshire's Mt. Washington, my partner and I had spent the evening in the Harvard cabin at tree line and awoke to a chilly 10 degrees in the cabin. We fixed breakfast and noted that with an outside temperature of minus 20 degrees Fahrenheit, our climbing would be limited. Still, since we had the day we walked the mile or so to the base of Huntington Ravine where we emerged from the trees. There was no wind and the sky was clear. We hiked up the lower fan to the base of Damnation gully which is 1500 feet long, mostly of low angle snow and a few ice bulges. After reaching a short vertical ice bulge midway and talking it over, we decided that we could retreat easily if needed. We checked for signs of frostbite that would occur if any wind were to be present. There were none. The rest of the gully was long and uneventful. The gully ended in a short steep wall that ended in the flat alpine garden. As I exited a blast of jet stream wind flattened me. I stood up and was knocked over again. My partner's cheek was frostbitten as he helped me pull up my cargole over my climbing helmet. The new position of the cargole exposed my adam's apple and it was instantly frostbitten by the minus 75 degree windchill. Covering ourselves we raced the quarter mile to the descent gully and dropped out of the wind. This incident taught me many things. First, because we were skilled at ice climbing and experienced on this mountain in winter, we were willing to operate where all factors combined were up against a critical safety barrier. We crossed that barrier and I learned humility. Second, because I set off an avalanche in the descent gully and survived this. I knew that I needed to learn about avalanches. Third, I came to realize that while learning by experience is generally good, I needed to find other ways to learn if I desired to have more experiences. These other ways are, of course, by education and the analysis of the experiences of others.

The role of lack of education in accidents is illustrated by a survey (Couche, 1977) of hikers and climbers on Mt. Hood, a snow-covered and avalanche-prone mountain, which revealed that 92 percent of these recreationalists did not have enough simple knowledge about avalanches to take the most basic precautions to safeguard themselves. The mechanisms and processes by which avalanches occur are well known. A person who wishes to travel in avalanche country can take courses such as those presented by the National Ski Patrol, among others, to gain both classroom and field experience. In addition, many outdoor organizations offer a wide range of structured experiences to transmit knowledge related to outdoor activities. Knowledge concerning specific natural hazards, such as avalanche paths, that reoccur in a particular area can often be obtained by pre-trip discussions with individuals who know the local area. Education concerning many other aspects of living and working with others in the outdoors is widely available and can be a positive force in preventing accidents.

The experiences of others can be gained through written case studies such as those found in Accidents in North American Mountaineering (Williamson, J., and E. Whalley, 1980), The Base Camp Program and The Mount Hood Accident (Williamson, Harvard, Lev, Bangs, and Shaw, 1986), River Safety Reports (Walbridge, 1986), "A Collection of Accidents and Incidents to Learn From" (Snyder, 1985). The Snowy Torrents: Avalanche Accidents in the United States, 1967-71 (Williams, 1975), Safety Management for Outdoor Program Leaders (Hale, 1984) and Common Practices in Adventure Programming (Johnson, 1984).

Reflections on personal experience, education, and the case studies gives rise to a set of guidelines, presented in a concise form in the Appendix to this paper, that are useful indicators to help form a decision based on all of the data available in any particular situation. This calls for on-the-spot analyses at each stage of a developing situation that places the participant in the heart of decision making. Understanding the reasoning to situations that give rise to the guidelines should help interested persons to utilize or alter them for their own use. The situations and reasoning that led to the guidelines form the remainder of this paper.

Judgment

The first accident case study to be examined involved a rappel failure in a beginning rock-climbing class from a university's Education Department. "The class was practice rappelling. The victim of this accident was making his second descent. Each member of the class had made one descent on the rope which was anchored around a rock. Witnesses described the victim as moving down three meters, then "fidgeting" with the rope, as if there was a problem. The rope "popped" off the anchor rock. The victim fell about 20 meters and died instantly" (Williamson, J. and S. Rosenbaum, 1983).

The analysis of this accident seems straightforward. If the rappel station had more than one independent anchor, as is common practice, a backup would have prevented total anchor failure. Also, inexperienced rappellers are commonly belayed with the belayer secured by a separate anchor. We can infer that the leader in this situation was unaware of these two safety procedures or did not consider them important. From this we might infer that this leader was relatively inexperienced to lead this type of activity. This accident might have been anticipated by a leader with greater personal experience than required for the specific activity as well as experience in working with groups of beginners in this type of setting.

A guideline for safety then might be that leaders of an outdoor activity should have more experience, knowledge, or skill, than required for the activity at hand. Advanced knowledge and experience allows the leader to anticipate what might go wrong in the situation and to take steps to prevent the accident. This reserve of experience and skill is one component of what we call good judgment. In my opinion,, good judgment based on experience and analysis of each specific situation, rather than written rules to be followed to the letter, is the cornerstone of safe outdoor experiences.

An example of the complexity of applying this guideline occurred in the 1986 Mt. Hood accident. In this accident seven young climbers and two adults died. In the most immediate analysis, the panel established to review this accident found that the climbing leader was capable of leading the normally easy Grade-I ascent, but not capable of leading this same ascent under more demanding storm conditions (Williamson, Harvard, Lev, Bangs, and Shaw, 1986). Complex relationships concerning this accident were recognized by the panel and subsequent authors who have commented on this. Some of these complexities will be discussed later in this paper.

Mentors, Instructors & Leaders

Leadership in a joint-adventure relationship at any particular time and situation might be decided on the basis of whoever has the most technical skill and experience applicable to the situation at hand. In groups of more than two, personal competence in a more general way often underlies the group's often unspoken decision to follow the lead of a specific individual.

Leadership can be fluid, based on trust as well as the dynamics of personal relationships within the group. Since there is no established leader the group might explore how it plans to go about decision making before it enters the out-of-doors. This process might, at the very least, avoid widely differing expectations about the conditions under which a goal will be attempted. The larger the group the more critical these discussions appear to be although this applies even in groups as small as two.

If an individual seeks out a mentor-instructor then more can be said about the qualifications required of a leader. Leading in the out-of-doors requires competence in three distinct areas of responsibility: knowledge of specific outdoor skills, knowledge of the environment, and knowledge of human needs (Raiola, E. and J. Cinnamon, 1989). There has been much debate about which is most important: technical skills, people skills, or knowledge related to the environment. All are essential for the wilderness educator. There also needs to be safety conscious within the context of the activity which may include high adventure types of activities.

Leaders, instructors, or mentors will usually be someone with good communication skills and enough life experiences to place the high adventure activity into perspective regarding the total experiences of life. One of the most common mistakes that occur with a novice leader is that the leader becomes so excited about being outdoors doing a specific activity that the needs of the group become secondary to personal involvement in the activity. Results of this attitude can range from frustration for the leader, to a lowering of the quality of the experience for the participant, to someone being injured. Whether a leader operates with a style that is authoritarian or includes the members of a group in decision-making may also have an impact upon the safety of members of a group (Phipps, 1988).

Tradition

Tradition! In Fiddler on the Roof, tradition was glorified. However, tradition can be a potential cause of accidents. Individuals or groups often have initial doubts about an activity. However, if the first trip or event succeeds without an accident, subsequent doubts are partially dismissed on the basis of past success. This produces a cyclic-reasoning process that allows the activity to continue on the basis of its traditional usage even though it is known to be potentially unsafe. An example is given below of the role of tradition in accidents. A serious near-miss occurred to an Outward

Bound Group (Snyder, 1985) when two instructors were following their students on a final expedition. "...As Alan and Anne were part way across the Catawba River Railroad trestle (150' long and 30' above the river) a train suddenly appeared. Alan at the far end of the trestle, ran to get off the bridge and either leaped for the bank or was hit by the train. He sustained mild abrasions and a concussion and was consequently hospitalized overnight. He was x-rayed for possible head, neck and spinal injuries. Anne was trapped in the middle of the trestle as the train appeared, jumped the railing and hung on to a parallel beam with her pack on until the train passed. She was shaken but did not require hospitalization..." Included in the in-house analysis of this accident is the comment that "This is an example of how we should be constantly questioning the traditional safety procedures. There was even an established trestle crossing procedure that the instructors were following when the incident occurred. Obviously, this was not enough."

Breaking this cycle of traditional but potentially unsafe practice appears to be difficult once it becomes established. One way to break this cycle might be to listen carefully to new voices that question any traditional practices, whether the new voices are those of novices or seasoned practitioners. Some groups establish safety review committees, who have the difficult job of breaking this cycle once it is established.

Intra-Personal Factors

Intra-personal factors are often involved in accidents. As an example, many people hike or ski together for companionship as well as safety. Since members of a group tend to walk or ski at different paces these larger groups often break up into smaller groups of two or three people who travel together and faster or slower than individuals who travel alone. The group as a whole often deals with this by agreeing that everyone will be within sight of each other. However, this often does not happen and in certain cases has led to the death of a member of the party
(Williams, 1975).

A case where a visibility gap occurred involved a group of six college students skiing under conditions of poor visibility starting from a developed ski area and skiing into an adjacent drainage. The victim started out with two others following moments later. The remainder of the party stayed to assist one member with his ski bindings. Two of the first three party members decided to wait for the rest of the group. They thought that the victim had done the same in the lee of one of the small rolling ridges. Apparently the victim continued and was engulfed in a very small avalanche and was subsequently found to be buried under four feet of snow with a 2-inch thick ice mask around the face and body. Death occurred due to suffocation which is commonly the case in avalanche related accidents. If he had been pulled from the snow quickly he undoubtedly would have been shaken but safe. This is not what happened. His friends saw the small area of avalanched snow, but assumed that it was old avalanche debris and that their friend was still out ahead. Reaching the highway and not finding their friend they initiated a search which resulted in their pulling the lifeless body of their friend from the avalanche. Clearly, just being in proximity of each other is not enough. A basic rule of safety in backcountry travel is that members of the party not lose sight of one another. Some organized groups (Petzoldt, 1984) deal with this problem by having a "guide" who finds the way and a "sweep" whose job is to be the last person of the group. Members of the group remain between these two persons at all times and the guide and sweep can see each other at all times.

Peer Pressure

Goal orientation is a problem of both large and small groups. Many outdoor people seek achievement such as that found in gaining a summit or traversing a wilderness basin. One of the amazing aspects of experience in the outdoors is the extent to which individuals and groups invest in these goals. In the face of trial and danger, peer pressure can sway the group into continuing when individuals have self-doubts about the safety of attempting the goal. Many mountaineers admit self-doubt at the beginning of an important climb that can be overcome both by peer pressure as well as the momentum of starting and the subsequent warming of the body through effort.

Peer pressure is not always positive as Rob Taylor documents in an article about climbing an icicle high on the side of Kilimanjaro's Breach Wall (Taylor, 1978). Against his own best judgment, swayed by the influence of his partner, he continued climbing a dangerously decayed icicle. His tools pulled out and he fell and severely broke his lower leg and ankle. He narrowly escaped death as the team undertook a long harrowing self-rescue followed by a protracted convalescence filled with bitterness toward his partner for decisions made during the climb and off the mountain. Peer pressure, whether positive or negative, is an ever present factor in our outings. We need to be prepared to act on that knowledge.

Goal Orientation

An accident that took the lives of five climbers on Mt. Cleveland in 1969 (Williams, 1975) points to goal orientation in the face of dangerous conditions as a contributing cause to the accident. Five young climbers, aged 18 to 26, contacted Glacier National Park Ranger Robert Frauson at his home. They planned to climb in the park. Frauson, an experienced mountaineer, tried to persuade them not to climb Mt. Cleveland in winter. He mentioned the severe and unpredictable weather conditions, avalanche hazard, and the time required to obtain rescue service should they need help. Frauson failed to dissuade the group from making the climb, but they did agree to climb the west face rather than the more difficult north face. As verified months later when their bodies were discovered they were caught in an avalanche high on the west face and swept down a water course in one of the predicted avalanches.

Since goal orientation seems such a prominent part of group behavior in the outdoors it might successfully be dealt with openly. This can be done verbally by openly talking about goal orientation before group members invest in a particular goal. It is often useful to have more than one worthwhile goal in mind so that groups do not become locked into a goal made dangerous by environmental and psychological conditions. If the first goal cannot be achieved, then achieving or even taking on another goal becomes the primary experience. I believe that a group on a time budget should pick at least two worthwhile potential goals, one of which is achievable in almost any weather condition. An example, on a trip that I was co-leading our first thought of a goal was to climb New Hampshire's Mt. Washington in order to stand on the top of New England in winter. On previous trips we had been able to do this. However, on any given day winds can be above 100 MPH and avalanches can be part of the experience. So as to avoid the pressure of achieving what might be an unrealistic goal for the group we picked two goals. The second goal was a two day ski cross-country through a tree covered wilderness area. When the final expedition came avalanche conditions and winds up high forced us to give up the climb of Mt. Washington. The cross-country ski was fun and challenging in its own way. Most importantly, in achieving or even taking on this goal it became the primary experience.

Groups and Safety

There are numerous examples of the idea that safety lies in numbers. One of the great tragedies in North American mountaineering involving a large number of climbers happened on Mt. McKinley in 1967 (Snyder, 1973; Wilcox, 1981). Seven climbers of a party of twelve died in a fierce mountain storm. This larger group was composed of a group of nine relatively inexperienced individuals and a group of three with slightly more experience. Rangers of the National Park Service had attempted to strengthen both groups in size and experience by convincing them to join forces. The contributing factors in this accident were many including inexperience, lack of communication and severe weather. However, as the fatal drama was being acted out the National Park Service delayed beginning a rescue attempt because they believed that a large group would be self-sustaining (Snyder, 1973). This did not happen under the severe conditions on the mountain. It is clear that a crisis safety does not lie in numbers but rather in personal competence, good planning, and perhaps a bit of luck.

Approaching Our Limits

Experienced individuals who are high skilled, who have an understanding of the pressures to obtain a goal, who train to overcome fatigue, and who are knowledgeable about natural hazards still have accidents. Many accidents among highly skilled individuals appears to be related to pushing skill limits in critical environmental conditions where a simple mistake crosses the boundary to being serious. Examples of this where deaths have occurred include ice climbing in extremely cold alpine conditions where frostbite and high winds are never far away (Williamson, J. and E. Whalley, 1980), and "ski-jumping" off set boulders in white water kayaking (Walbridge, 1986), where pinning is a real possibility. In more general terms, personal skill and knowledge need to be tempered by humility when there is small room for error. We should not exceed our abilities in an activity and need to understand the dangers of approaching our abilities in the environmental setting at hand. This is especially true when we are entrusted with the lives of others.

A Complex Accident

As an example of a complex accident from which we might learn, I would like to examine the 1986 tragedy on Mt. Hood. In this accident seven students and two adults lost their lives. The climbing team consisted of 15 sophomores of the Oregon Episcopal School and their guides. I think that it might be instructive to examine the viewpoints of two well known mountaineers. David Roberts, an extremely accomplished mountaineer (Roberts, 1986), looks at the accident from the viewpoint of a former head of a college outdoor program. John Roskelly (Roskelly, 1986), who is considered by many to be this country's foremost mountaineer, looks at the accident from the perspective of a guide and his own climbing experiences. David Roberts attempts to fix blame and particularly is concerned with the reason that the students were on the mountain in the first place. Roberts states that "the tragedy in Oregon is compounded by how little free choice the students had. It was not mere peer pressure that forced them on into the fatal blizzard; it was the requirement that they had to go high to graduate, or else face 40 hours of cleaning up parks or visiting nursing homes - the sort of sentence meted out to drug offenders and the like. If a person believes that climbing a mountain will make him a better person, fair enough. But one shouldn't be required to sacrifice one's life to such a dubious proposition."

Teaching mountaineering requires fully informing students of the dangers of mountaineering to the point that they can make rational personal decisions concerning their involvement in above treeline climbing. In addition, these rational decisions also need to be based on experiences in similar but less committing mountaineering situations. Expeditions above treeline where there is not much room for error in the event of a storm should always be based on personal aspirations and ability and not requirements. Even this can be misdirected. The inquiry committee (Williamson, Harvard, Lev, Bangs, and Shaw, 1986) formed by the school reached similar conclusions, and suggested that "related but alternative tasks" ..(goals).."for different levels are probably appropriate."

Natural Reoccurring Hazards

John Roskelly's analysis also seems reasonable once the students are on the mountain. That is, the guide and instructor must make judgements based on the information available to them. He makes a strong case for the competency of the young technical expert and the validity of the minute by minute decisions once the storm began. Accepting this, I would like to explore here a thesis borrowed from planning for natural hazards such as floods which of course are related to the subject of our concern, storms.

Throughout the United States most communities have established plans to deal with storm-related flooding. The establishment of these plans at a community level lagged long behind scientific knowledge partially because of the easily understandable limitations imposed by the human perspective concerning the reoccurrence of natural phenomena. The disaster plans are based on the knowledge that natural hazards occur and can be predicted in a statistical sense.

Personal perspective of events of low probability that periodically reoccur such as storm-driven floods is usually limited to an individual's experience. A human generation in biological terms is of approximately twenty years duration. A generation of mountaineers may be half of the duration. Our senior public statesmen are 50 to 80 years of age, our senior active mountaineers are usually younger. That means that public memory is too short to recall a periodic and predictable event such as a storm-driven flood that occurs with a low probability such as once every 20 years. As a result, whenever a severe flood occurs, there almost always is a vivid quote from the municipality's mayor or other statesman that this was unexpected and unexperienced in magnitude by even his father or grandfather. Similar statements are heard concerning the Mt. Hood storm. John Roskelly states, "There is obviously one cause and one cause only of this tragedy; the weather. Remember, Sargeant Harder, who had been on every major rescue on Mt. Hood since 1975, said the weather was the worst that he'd ever seen. I believe him." Here, reference is made to 11 years of human memory trying to deal with naturally repeating events of possibly longer duration.
If this storm was only an 11 to 20 year storm it could have been a mild storm by comparison with storms to come that are predictable.

Has American mountaineering seen a more severe storm in which victims have been trapped? Joe Wilcox in his book White Winds (Wilcox, 1981) makes a strong case that the 1967 Mt. McKinley tragedy in which seven climbers dies was the result of the "storm of storms". According to his conclusions the trapped climbing party encountered winds of 80 to 110 miles per hour with peak gusts well above 150 miles per hour. Even during "calm" periods it is doubtful that the climbers trapped near the summit had winds less than 50 to 60 miles per hour. "The most profound characteristic of the storm was that winds were extreme day after day; too extreme for aircraft to venture near the peak, too extreme for rescue climbers to ascend, too extreme for...the trapped party...to descend. In conclusion, Wilcox states that the "...summit party without slightest doubt, encountered the most severe, high altitude windstorm in all the previous history of McKinley mountaineering." Without reference to the raw data, Wilcox's analysis seems convincing. Since all this is based on 33 years of July observations, however the storm of storms might not even be a 40 year storm let alone a 100 year storm. Surely, there are more of these storms coming.

Where does this leave us? Clearly it should leave us with a change of attitudes. Ordinary storms are bad enough on the mountain but in most climbing areas these are well forecast by the National Weather Service if we only heed their warnings. David Roberts quotes veteran climber Lou Whittaker, who canceled a climb on the day of the Mt. Hood tragedy: "...there is no such thing as a surprise storm." In addition, we should realize that severe storms are reoccurring natural hazards. Even worse, since these are statistical predictions, a severe storm that happened last year has the same probability of occurring this year or the next no matter what happened last year. The Mt. Hood storm was perhaps only a 10 to 15 year storm if we accept the cited memory of Sergeant Harder without digging into archived weather records. In practical terms, this means that the 1986 Mt. Hood storm may have a 6 to 10 percent chance of happening again next year, or the year after that. In this light it does not seem reasonable to start up a mountain in any forecast storm to make the most out of an attempt.

Reoccurring Accidents

As a revealing example of the nature of accidents, I wish to examine a reoccurring accident that occurs in Grand Teton National Park. That is, from time to time, the same environmental and human factors come together in the same place to produce an accident involving different people at the same place.

Symmetry Spire is probably the most popular climb in Grant Teton National Park, principally because it is the most accessible. "It offers the option of an easy scramble via a couloir, or any one of a series of progressively demanding rock routes.'..."The most tragic accident" of the 1971 season claimed three lives (Smutek, 1972). "The trio was descending the Symmetry Spire Couloir, and glissaded into a deep moat which had formed at a cliff. There they were trapped by snow falling in around them. The snow also dammed the stream that ran beneath the snow surface, filling the moat with ice water." This particular accident has occurred repeatedly, each time involving different people. The last time occurred in 1982. In this case (Williamson, J., and Rosenbaum, 1983) four hikers belonging to a college geology course climbed to the Symmetry Spire-Ice Point col after being warned against doing so by their group leader. "After a brief stop at the col, the four started down, electing to slide"..."The slope began to steepen and soon the group was only in marginal control. Their descent route"..."was channeled into a narrow snow chute that ended in an 18-meter waterfall and moat." One of the group "saw the moat and was able to grab some bushes and stop himself but was unable to hold"...a second member..."who slid over the falls and into the moat." The first member yelled to a third member..." and, at the last moment, he was able to vault the moat and land downslope from the falls." The first member then grabbed the fourth member and was able to hold on to him. The victim was later found..."At the bottom of the waterfall,, about 15 meters into the moat"...He was lying face down in about 15 cm. of water, with massive head injuries and showing no signs of life."

Undoubtedly, this accident will happen again. It will happen in those years that a moat opens up as the snow pack begins to disappear. Individuals unaware of previous accidents at this spot will see a gentle but deceptive icy slope above the waterfall and moat and attempt to glissade down it. They will not be able to control their speed and direction in the icy trough that leads into the moat. Death will be either by concussion or drowning. When the accident does occur again it will be declared a tragedy. And it will be in the Shakespearean sense, in that the exact dangers are known and yet the accident reoccurs.

A Model of Accidents

As shown by the case studies examined, accidents happen when people interact unwisely with a natural environment that contains the necessary potential ingredients for an accident to occur. Therefore, the two factors that are common to accidents are environmental hazards and human factors (Hale, 1984). The role of guidelines in preventing accidents is to establish a barrier between these environmental hazards and unwise human actions that stem from the human factors.

The last guideline, is that the environment, on one hand, with its steep slopes, avalanches, loose rock, gravity, storms, lightning, and other reoccurring natural hazards exist in an ongoing dynamic interaction. On the other hand, what we take into the wilderness are personal factors such as knowledge and skill, personal and group goal orientation, peer pressure and group dynamics, physical conditioning or fatigue, and a limited human perception of the time scale and processes involved in reoccurring natural events. Accidents occur when human and environmental hazards come together in a dangerous manner. The role of guidelines, judgment, and experience is to prevent this interaction.

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APPENDIX

GUIDELINES TO RISK MANAGEMENT IN HIGH ADVENTURE OUTDOOR PURSUITS

Leaders and Participants

(1) Leaders of an outdoor activity should have more experience, knowledge, or skill than required for the activity at hand. This additional experience gives the leader a cushion of knowledge, and skill to handle the experience at hand if anything should go wrong. Importantly, advanced knowledge and experience allows the leader to anticipate what might go wrong in the situation and to take steps to prevent the accident. This reserve of experience and skill is one component of what we call good judgment. Good judgment is based on experience and analysis of each specific situation rather than written rules to be followed to the letter. This is a cornerstone of safe outdoor experiences.

(2) We should not exceed our abilities in an activity and need to understand the dangers of approaching our abilities in the environmental setting at hand. This is especially true when we are entrusted with the lives of others.

(3) A novice needs to work with a skilled mentor concerned with the novice's well-being. Leaders, instructor, and mentors need to have technical skills, people skills and knowledge related to the environment. The mentor needs to be safety conscious within the context of the activity, whether that activity is mountaineering or another high adventure outdoor activity. This will usually be someone with good communication skills and enough life experiences to place the technical pursuit into perspective regarding the total experiences of life. Leadership style may have a direct impact upon the safety of a group.

Groups

(1) Objectives need to fit the physical fitness and abilities of the group. Related but alternative goals for different levels of fitness are appropriate. Participants in joint-adventure pursuits should be physically trained for conditions expected in attempting a particular goal, to

avoid fatigue that may affect motor control and decision making. Illness and hypothermia lead to an inability to make safe decisions.

(2) Safety does not lie in numbers but rather in personal competence and good planning.

Goals & Decisions

(1) Goal orientation is a normal function of groups and may be positive or negative in its effects. Since goal orientation seems such a prominent part of group behavior in the out-doors it might successfully be dealt with openly.

(2) Peer pressure, whether positive or negative, is an ever present factor in our outings with others and leaders need to be prepared to act on that knowledge to our own and the groups best interest.

(3) Groups on a time budget should pick at least two worth while potential goals, one of which is achievable in almost any weather conditions by all members of the group. If the group does split up, each group should be under competent leadership and contain enough internal strength to reach its goal safely.

(4) Expeditions above tree line and in other situations where there is not much room for error in the event of a storm should always be based on personal aspirations and ability and not requirements.

(5) Members of joint-adventure relationship will benefit by discussing decision making questions and procedures before heading out. This will establish that a consultation or process is expected when important decisions are to be made.

Movement

(1) A basic rule of safety in backcountry travel is that members of the party not lose sight of one another.

(2) Novices or experienced practitioners should be encouraged to question traditional practices of long standing since long use may have habituated practitioners to their unwise use. Severe storms and other natural hazards reoccur in a natural cycle. "Traditional practices" of 10 to 20 years standing have not as yet experienced the full cycle

of the potential hazard. In this light it does not seem reasonable to start up a mountain in any forecast storm to make the most out of an attempt.

Summary

Many accidents are similar in their nature. The environment, on one hand, with its steep slopes, avalanches, loose rock, gravity, storms, lightning, and other reoccurring natural events exist in an ongoing dynamic interaction. On the other hand, what we take into the wilderness are personal factors such as knowledge and skill, personal and group goal orientation, peer pressure and group dynamics, physical conditioning or fatigue, and a limited human perception of the time scale and processes involved in reoccurring natural events. Accidents occur when human factors interact with environmental hazards in a dangerous manner. The role of guidelines, experience, and judgment is to prevent this interaction.

THE IDENTIFICATION AND MODIFICATION OF SITUATIONAL FEARS ASSOCIATED WITH OUTDOOR RECREATION

by

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ABSTRACT:

This study identified what types of situational fears were held by participants in one type of outdoor recreational program - Outward Bound. Levels of fear for each situation were measured for three time periods, baseline, immediately after the course and one year after the course ending. Scores from both students and course instructors were compared to determine levels of agreement. In addition, a MANOVA design used the variables of gender, age and length of course to identify any significant differences in each measurement phase.

Results of the study, identified and ranked in order of "fearfulness" 23 situations which elicit a fear response. Instructors consistently overestimated the level of situational fears held by their students. For the baseline measurement, gender played an important role in generating a number of differences in levels of fears. For the post course measurement, age and gender both generated a substantial number of differences. It was concluded that gender, and to a lesser degree age, were important variables with respect to levels of situational fears. Moreover, it appeared that participation in Outward Bound was an effective method of reducing situational fears.

Keywords: Anxiety, Fear, outdoor recreation, Outward Bound

Introduction

In a previous work it was demonstrated that the level of trait anxiety could be reduced through participation in an Outward Bound course (Ewert, 1987). The purpose of this present study is to investigate what effect participation in Outward Bound has on the levels of situational fears of participants. More specifically, this study was concerned with what participants were afraid of, what level of fear did they experience and how long-lasting were any changes in these levels of fears.

The ability of man to adapt to a variety of situations is based, in part, on his ability of foreseen events. Seyle (1950) suggests that this effective adaptation an be considered one of the hallmarks of a successful life. Unfortunately, the price paid for this constant vigilance are heightened levels of anxiety and fears, both real and imaginary. Indeed, anxiety has become the most pervasive psychological phenomenon of our time (Levitt, 1980). These anxieties can be related to one's personality (trait anxiety) or by recognition of some source of threat facing the individual, either real or illusionary (situational anxiety).

In the outdoor recreational setting, the participant is sometimes faced with situations which are perceived as potentially threatening. This can be true if the individual is part of a program which deliberately offers activities such as rockclimbing and solo camping as part of the experience. In addition to the physical threats often present in the outdoor environment, the individual is also faced with a host of social threats, especially if they are part of a group of relative strangers. This situation is common in many public and commercial recreation programs.

The purpose of this study was to identify change in pattern of these situational fears as participants were exposed to one type of outdoor recreational program-Outward Bound. The patterns of situational fears was studied from the context of: (1) what individuals were afraid of before, immediately after and one-year following their Outward Bound course, and (2) what was the intensity of these fears and (3) were these patterns of fear related to the variables of gender, age, or length of course. With the exception of Crume and Ellis (1984) and Ellis (1972) little empirical work has been done on the specific sources and levels of fear in the outdoor recreational environment.

The Concepts of Fear and Anxiety

Fear and anxiety are both learned responses (Schachter and Singer, 1962) and instinctual behaviors (Rachman, 1974). While fast moving water or the sudden movement of a snake are examples of sources of threat eliciting instinctual fear; not fitting into a group or lacking self-confidence are often situations which the individual learns to fear.

Moreover, while fear has generally been associated with feelings of alarm or disquiet emerging from a specific source of perceived threat, anxiety is often thought of as feelings of apprehension unrelated to a tangible source of stimulation (Hauck, 1975). This distinction, however, is behaviorally and conceptually difficult to distinguish (Leary, 1983) and for the purpose of this study, fear and anxiety are considered synonymous and will be used interchangeably.

In addition, fear has been categorized into state and trait anxieties (Cattell and Scheier, 1958). Within this framework, trait anxiety reflects a disposition toward a particular level of fear which is relatively stable and not prone to change (Spielberger, 1966). State anxiety refers to those fears held by an individual which are responsive to the immediate situation or circumstance (Zuckerman, 1976).

In an earlier work (Ewert, 1986) it was reported that physical dangers and socially-based fears were the most often reported state or situational fears in the outdoor recreational setting. Physical dangers included fear of: falling, fast or deep water and lack of food. Non-acceptance by the group they were in and not being able to keep up with the rest of the party were examples of commonly reported social-based fears. This present study extends that previous research by examining the situational (state) fear aspect of one widely-used outdoor recreational program, Outward Bound, using a larger population and course instructor observations as behavioral checks.

The Modification of Fear

Gray (1974) reports that there are four types of stimuli associated with fear: intensity, novelty, specific situations (e.g. steep cliffs or darkness) and social interaction. Past research in clinical psychology has suggested three salient techniques for reducing levels of fear: systematic desensitization, flooding and modeling (Rachman, 1974). Systematic desensitization involves a gradual exposure to the source of the fear. Flooding refers to a prolonged exposure to the fearful stimulation in an effort to inure the individual to the fear. Modeling utilizes the observation of effective fear coping patterns in others and the rehearsal of these newly learned behaviors. While McReynolds (1976) indicates that there appears to be little difference in the overall effectiveness between the various techniques, a gradual exposure to the fearful stimuli coupled with a learning of fear-coping behaviors appears to be the most widely emulated principle in reducing levels of fear.

The Outward Bound process is designed to facilitate personal growth and development through the structured use of outdoor recreational activities such as rock-climbing, white-water rafting and solo camping. It was reasoned that the Outward Bound would be an effective process for studying fear for two reasons. First, the very nature of the activities (i.e. activities which are novel, very intense and involve both instinctual and learned types of fears) would suggest that participants experience fear at various times during the course. Because involvement in Outward Bound entails a high degree of activity in often remote wilderness settings, these feelings of fear are often compounded by an interaction between a cognitive appraisal of a real or apparent threat and a heightened level of physiological arousal (Mayes, 1979). The participant not only perceives a potential threat such as a looming mountain to be climbed, but may be a little cold and tired at the same time. Along with this lack of homeostasis is also the uncertainty present in many of these types of outdoor recreational activities. Uncertainty plays a pivotal role in the development of fear (Leary, 1983: 102-104; Warburton, 1979) with individual concern in the areas of uncertainty about: outcomes, possible responses and potential roles the individual will have to assume. All of these fear-enhancing components are present in an Outward Bound course.

The second reason for using Outward Bound as the medium for study is the contrast and similarity this process provides to clinical psychology. While far removed from the clinical setting and procedures of therapeutic drug use and office visits, the Outward Bound process emulates the clinical techniques in fear reduction of gradual desensitization and modeling with opportunities for rehearsal. Thus, the assumptions underlying this study were: (1) the Outward Bound environment would be an acceptable setting to study fear because fear and anxiety would be viable active components of the experience and (2) the Outward Bound process would be effective in reducing levels of specific fears.

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The Setting

Outward Bound is a worldwide educational program that utilizes outdoor recreational activities such as rapelling or mountain-climbing to promote personal growth of the individual. Originally developed as a training school for British seamen during World War II, there are now more than 30 Outward Bound schools throughout the world, with 7 located in North America. The process through which these schools attempt to effect changes in personal growth consists of placing the participant into a unique social and physical setting usually involving groups of 8-10 people engaged in challenging outdoor activities such as white-water rafting or rock climbing. As part of this group, the individual is given a series of progressively more difficult tasks which are designed to be physically and emotionally demanding yet possible. Throughout this experience, the course instructor provides guidance and feedback to the students concerning their actions and behaviors during activity.

The Sample

The sample for this study consisted of two groups of people, (1) students attending an Outward Bound course during the summer of 1985 and (2) instructors supervising those courses. Participants were mailed the Situational Fear Inventory (SFI) just prior to their course beginning (base line). Immediately after their course (post-intervention) students were mailed a second SFI and again one year after that (post delayed). Course instructors were queried immediately before and after the courses.

Variables

Independent variables in this study consisted of the age, gender of the participants and length of course they were involved in. The dependent variables were the types and levels of situational fears reported by the students or observed by the instructors.

Instrument

To obtain a quantitative measurement representing the types and levels of situational fears a 23 item inventory was developed. A comprehensive search of the literature pertaining to fear, personal observations and items generated by selected outdoor instructors resulted in an initial pool of 40 items. This initial pool was reduced and reviewed to insure that no major types of situational fears that may be encountered the outdoor recreational setting were omitted. A pilot test was conducted using Outward Bound students in 1985 with a Chronbach's alpha of .94 being generated for a revised inventory of 30 items. This scale was subsequently reduced to 23 items to avoid redundancy in some of the questions.

Participants were asked to place a slash (/) across a 10 cm line anchored by the statements "strongly disagree" and "strongly agree" which best represented their feelings about a particular fear. Instructors were asked to complete a similar instrument but with two modifications. For the baseline measurement, they were asked to respond as to how fearful their students would be to a specific item such as fast or deep water. Following the completion of the course, they were asked to report via the SFI what level of fear they observed in their students with respect to specific situational fears. To avoid any interaction effects, the instructors did not see how their students rate themselves before or after the course.

Results

Of the 550 student participants initially queried, 311 (57%) responded with usable questionnaires for all three measurement phases: baseline, post intervention phase and one-year delayed post measures. Of the total number of respondents, 230 were male (74%) and 80 were female (26%). The mean age of the respondents was 21.05. For the instructors, 90 completed the instrument prior to the beginning of their courses and 53 completed the FSI after their courses.

Of initial interest were the types of specific fears held by the participants. Most of the specific situational fears which achieved a baseline level of 30 or greater were sociological or psychological in nature, rather than physical. This is congruent with the earlier findings of Hauck (1975) and Leary (1983). A one-way analysis of variance procedure with a Scheffe multiple comparison (.05 level of significance) resulted in a number of significant differences in the subsequent levels of these different types of fear (Table 1). Many items which initially differed between the baseline level and the post course measurement also maintained a similar difference between the baseline and one-year followup, suggesting a "durability" of effect. Moreover, with few exceptions, the trend for each item was toward reduced levels of fear when the baseline data were compared to the post-intervention and one year followup measurements. In sum, of the five most frightening situations, three were social-based and two were physical-based. "Letting myself down" and "making wrong decisions" were of particular concern to the respondents for all three measurement phases.

Of further interest is the comparison between the self-reported levels of fear for specific situations and the perceptions of the course instructors with respect to student levels of fear. Using a t test procedure, a substantial number of differences between student and instructor perceptions of specific fears were noted for the baseline measurements (Table 2). Differences were also noted between the students and instructors for the post course measurement (Table 2).

For both sets of measurements a substantial number of differences were generated between the students and their staff. While the number of differences between the students and instructors remained the same for the baseline and post course comparisons the magnitude of these differences and overall reported level of fear diminished.

A third analysis was performed using a MANOVA design with gender, age, length of course and corresponding interactions as the independent variables for the three measurement phases. In addition, a Scheffe procedure (.05) was used to identify specific sources of variation. The age variable was dichotomized into two categories: "young" (15 to 20 years old) and "adult" students (21 years old or greater). The length of course variable was dichotomized into "short courses" (5 to 9 days in length) and "long" courses (10 days long or greater). These variables were chosen because relatively little is known about the relationship between course length, gender and age of the student and fear-related outcomes of an Outward Bound course (Shore, 1977).

Results of this analysis revealed the existence of several patterns of effect. For the baseline measurement, gender played an important role in a number of specific situations (Table 3). Without exception, when a significant difference was noted, females reported higher levels of fearfulness for a specific situation than did the males. This may be due to sex role stereotyping, as suggested by Leary (1983), with males being less prone toward admitting their fears. With respect to the social fear of not fitting in with the group, the younger students reported significantly higher levels of fear than did older individuals. This finding supports those of previous research on the variables of age and course outcomes for these types of programs (Ewert, 1982; Thomas, 1983).

Measurements taken immediately after the course suggest a different set of patterns with age becoming the more important variable associated with discernable differences. As in the previous measurement, sex remained an important variable in this measurement phase as well. As suggested in Table 4, the older student reported lower levels of fear than did the younger student. Likewise, the male student reported less specific fear levels than the female student immediately after the course.

For the specific item of "not having enough personal ability" this pattern continued one year after the course, with the variable gender generating az significant difference (p = .04, males = 31.3, females = 37.1). A significant interaction between sex and age was the only other meaningful difference, in the one year followup measurement. This interaction was interesting in that young and old males reported relatively similar levels of fear on the item of not enough training (young males = 33.4, older males = 34.3). Young females reported a level of fear on this item of 46.6, while older females reported a level of 29.4 (p = .02). It would appear that one year after the course, the older female is either naive about the quality and amount of training received during the course, or felt much more confident about the congruence between their abilities and the training they received than did their male counterparts.

Discussion

Given the opportunities for systematic desensitization and modeling, it is not surprising that levels of fear for a number of specific situations were reduced. In most cases, this trend of reduced levels of fear continued from the baseline measurement through the post intervention and one year followup phases suggesting that these reductions in fear levels continued well past the initial experience. The data suggest that participation in Outward Bound can be effective in reducing fear levels of specific situations.

Of a more disconcerting nature is the obvious gap between the perceptions of the instructors and their students. While anticipating how another person perceives and feels about a situation is often a difficult task, the number and magnitude of the differences noted between the reported levels of fears of the students and what the instructors thought those levels would be suggest that the instructor corp may not have an accurate picture of what their students are experiencing with respect to fear.

Rachman (1974) reports that observing fear in others is a difficult process although common expressions of fear in the outdoor recreation setting include:

talkativeness, irritability, "hurried decision-making", inability to concentrate and detachment. In addition, past research has suggested that self-report instruments generally overestimates the level of fear (Rachman, 1974) thus further complicating the situation. Overall, it can be concluded that the instructors in these programs are overestimating how fearful their students are for most situations. The information provided through this study can help provide specific information concerning what outdoor recreation participants are afraid of and to what extent they are afraid.

In addition, this study has identified a possible example of sex role stereotyping as evidenced in the findings of the latter part of the analysis. That females would consistency report higher levels of fear for the various situations would suggest that there is a systematic bias in effect. Previous work has suggested that there is no consistent evidence that females are more fearful than males (Smith, et. al. 1975; Leary, 1983). In a related work, Ewert (1987) demonstrated that there were no differences in levels of trait anxiety in Outward Bound participants due to gender differences. It would appear that the differences noted in this study are due to either a gender difference which is more pronounced when it comes to specific situations or that females are more willing to admit to their apprehension than are males. This author suggests that the latter is the case and females are no more fearful of specific situations than are males, just more prone to admit those fears. This fact has some implications for the program staff since with respect to fear perhaps the females of the group better reflect the true feelings of the participants rather than the males.

The same cannot be said as forcefully for the variable of age although with the post intervention measurement there was evidence of a systematic effect of age. Generally, it can be concluded that the older student is less fearful of a variety of situations that their younger counterpart. This is particularly true of social-based fears such as not fitting into the group. It should be noted, however, that in Outward Bound, the older students generally take shorter courses. This may account for reduced levels of fear since the time of exposure to fear is less.

Related to this difference in course length is the lack of many significant differences specifically due to course length. Two patterns can explain the outcome of this finding. First, the lack of any noteworthy effect due to the length of the course may be a result of the younger student usually having longer to become less fearful and ultimately reaching the level that their older counterparts were at, only in less time.

Secondly, with respect to levels of fear, what may be of greater importance is not how long a course is taken but rather that a course is taken. From observations on Outward Bound participants during their courses, Katz and Kolb (1968) report that there is an ideology and mystic that is both compelling and instructive. According to Katz and Kolb (op cit) once the decision is made to attend a course, not finishing or not attending the course involves feelings of dissonance and inability. Conversely, attending and completing the course enabled an individual to join the "league" of successful alumni. Students in a program such as Outward Bound may report reduced levels of fear not only because of the opportunities for desensitization and modeling, but also because they expect themselves to be less fearful and more confident.

In conclusion, this study has provided information on what situations related to the outdoor environment participants are specifically afraid of before, immediately after, and one year after an Outward Bound course. In addition, it was demonstrated that outdoor recreational programs such as Outward Bound can be effective in reducing specific situational-based fears and that this reduction is consistent over one year's time. It would appear that the effectiveness of this reduction is influenced by the participant's gender and age. Course length does not appear to play a differential role in the reduction of levels of situation fears. In light of previous work done in trait anxiety levels (Ewert, 1987), it cannot only be said that Outward Bound is a useful technique in reducing overall levels of fear but also the outdoor recreation programmer now has a better idea as to what people are afraid of in these types of programs with an eye toward reducing those feelings of fear and anxiety.

TABLE 1

Effects of Different Phases of Participation in Outward Bound Upon Mean Levels of Situational Fears

Situation	Baseline		Post		1 Year		Baseline
Letting Myself Down	48.7		46.9		46.9		48.7
Making Wrong Decisions	47.9		43.6		44.1		47.9
Becoming Trapped	42.8		37.8		39.4		42.8
Not Enough Training	40.1	*	30.2	*	35.3	*	40.1
Becoming Hurt	39.6		38.3		35.3		39.6
Venomous Animals	39.3	*	30.1		27.0	*	39.3
Not Fitting In	39.2	*	34.8		34.1	*	39.2
Not Enough Ability	37.4	*	30.5		33.6	*	37.4
Insufficient Food	37.1		34.6		32.8		37.1
Unexpected Situations	36.8	*	32.1		31.5	*	36.8
Insects	36.2	*	28.5		34.4	*	36.2
Task Too Demanding	35.6	*	26.8		29.8		35.6
Unrecognized in Group	34.4		33.1		31.3		34.4
Inadequate Clothing	33.6		33.2		36.6		33.6
Confrontation	33.2		32.3		30.6		33.2
Lack of Control	32.5		32.5		31.2		32.5
Hostile Environment	32.0		30.1		29.3		32.0
Fast/Deep Water	28.7	*	24.0		24.4	*	28.7
Poisonous Plants	26.6		22.0		20.1	*	26.6
Money's Worth	25.3		28.0		25.2		25.3
Sexually Harassed	21.7	*	17.2		19.6		21.7
High Winds	21.1		19.0		18.4		21.1
Darkness	19.8	*	13.4		14.0	*	19.8

Means on a scale of 0.0 to 100.0 with higher numbers indicating a higher level of fear.

*Significant difference between adjacent measurements at .05 levels.

TABLE 2

Differences Between Student Reported Levels of Fears and Instructor Perceptions of Student Fears[1]

	Baseline			Post		
	Students		Instructors	Students		Instructors
Situations	M		M	M		M
Lack of Control	32.5	*	48.6	32.5	*	40.5
Unexpected Situations	36.9	*	61.8	32.1	*	39.4
Physically Trap	42.8		42.0	37.8	*	27.3
Becoming Hurt	39.6	*	53.8	38.3		35.4
Wrong Decisions	47.9	*	60.3	43.6	*	52.5
Letting Self Down	48.7		48.9	46.9		49.0
Task Too Demanding	35.6	*	68.7	26.8	*	46.6
Not Enough Ability	37.4	*	62.9	30.5	*	41.2
Confrontation	33.2	*	53.9	32.3	*	50.4
Unrecognized	34.4	*	53.3	33.1		36.7
Not Fitting In	39.2	*	63.0	34.8		40.6
Sexually Harassed	21.7		19.2	17.2		10.7
Hostile Environment	32.0	*	52.6	30.1	*	40.2
Poisonous Plants	26.6	*	35.4	21.9	*	34.6
Darkness	19.8	*	38.9	13.4	*	28.5
Venomous Animals	39.3		45.1	30.1		30.5
Insects	36.2	*	52.8	28.5	*	36.3
Fast/Deep Water	28.7		39.8	24.0	*	31.2
High Winds	21.1		23.9	19.0		24.0
Inadequate Clothing	33.6		33.8	33.2	*	43.2
Not Enough Training	40.1		40.7	30.2		28.8
Insufficient Food	37.1	*	60.3	34.6	*	59.1
Money's Worth	25.3	*	34.8	28.0		35.1

[1] Mean scores with a range of 0.0 to 100.0, with a higher score indicating a higher level of fear.

*Significant difference between adjacent measurements at .05 level.

TABLE 3

Patterns of Effect for Baseline Measurement[1]

Situation	Variable	Effect		P
Lack of Control	Gender	Female	36.5	.04
		Male	30.18	
Making Wrong Decisions	Age	Younger	50.7	.02
		Older	41.4	
	Length	Shorter	42.4	.00
		Longer	50.5	
Letting Myself Down	Gender	Female	55.6	.00
		Male	44.7	
Task Too Demanding	Gender	Female	42.1	.00
		Male	31.8	
Not Enough Ability	Gender	Female	42.7	.04
		Male	34.3	
Not Fitting In	Age	Younger	43.5	.00
		Older	29.7	
Sexually Harassed	Gender	Female	26.8	.00
		Male	18.9	
Hostile Environment	Gender	Female	40.5	.00
		Male	27.0	
Darkness	Gender	Female	28.3	.00
		Male	15.1	
Venomous Animals	Gender	Female	45.7	.01
		Male	35.6	
Insects	Gender	Female	42.3	.00
		Male	33.5	
Fast/Deep Water	Gender	Female	38.5	.00
		Male	23.1	
	Age	Younger	25.4	.02
		Older	36.6	
Not Enough Training	Gender	Female	49.7	.00
		Male	34.8	
Insufficient Food	Age	Younger	41.3	.00
		Older	26.9	
Money's Worth	Age	Younger	28.5	.02
		Older	17.4	

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[1] Means on a scale of 0.0 to 100.0 with higher numbers indicating a higher level of fear

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TABLE 4

Patterns of Effect for Post Intervention Measurement[1]

Situation	Variable	Effect		P
Lack of Control	Age	Younger	34.5	.01
		Older	27.9	
Unexpected Situations	Age	Younger	34.7	.00
		Older	26.1	
Making Wrong Decisions	Age	Younger	47.4	.01
		Older	34.8	
Letting Self Down	Age	Younger	49.5	.03
		Older	40.9	
Task Too Demanding	Gender	Female	30.4	.03
		Male	34.7	
Darkness	Gender	Female	16.8	.01
		Male	11.4	
Venomous Animals	Gender	Female	35.3	.00
		Male	27.2	
Insects	Age	Younger	30.8	.04
		Older	23.3	
High Winds	Gender	Female	25.0	.00
		Male	15.5	
Insufficient Food	Gender	Female	25.1	.00
		Male	40.0	
	Age	Younger	40.4	.00
		Older	21.2	
Money's Worth	Age	Younger	32.3	.00
		Older	18.0	

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[1] Means on a scale of 0.0 to 100.0 with higher numbers indicating a higher level of fear.

TABLE 5

Differences Between Student Reported Levels of Fears and Instructor Perceptions of Student Fears[1]

	Baseline			Post		
	Students		Instructors	Students		Instructors
Situations	M		M	M		M
Lack of Control	32.5	*	48.6	32.5	*	40.5
Unexpected Situations	36.9	*	61.8	32.1	*	39.4
Physically Trap	42.8		42.0	37.8	*	27.3
Becoming Hurt	39.6	*	53.8	38.3		35.4
Wrong Decisions	47.9	*	60.3	43.6	*	52.5
Letting Self Down	48.7		48.9	46.9		49.0
Task Too Demanding	35.6	*	68.7	26.8	*	46.6
Not Enough Ability	37.4	*	62.9	30.5	*	42.2
Confrontation	33.2	*	53.9	32.3	*	50.4
Unrecognized	34.4	*	53.3	33.1		36.7
Not Fitting In	39.2	*	63.0	34.8		40.6
Sexually Harassed	21.7		19.2	17.2		10.7
Hostile Environ	32.0	*	52.6	30.1	*	40.2
Poisonous Plants	26.6	*	35.4	21.9	*	34.6
Darkness	19.8	*	38.9	13.4	*	28.5
Venomous Animals	39.3		45.1	30.1		30.5
Insects	36.2	*	52.8	28.5	*	36.3
Fast/Deep Water	28.7		39.8	24.0	*	31.2
High Winds	21.1		23.9	19.0		24.0
Inadequate Cloth	33.6		33.8	33.2	*	43.2
Not Enough Train	40.1		40.7	30.2		28.8
Insufficient Food	37.1	*	60.3	34.6	*	59.1
Money's Worth	25.3	*	34.8	28.0		35.1

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[1] Mean scores with a range of 0.0 to 100.0, with a higher score indicating a higher level of fear

*Significant difference between adjacent measurements at .05 level.

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OUTDOOR PROGRAMMING IN THE SOUTHERN UNITED STATES

by

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ABSTRACT:

The purpose of this study was to ascertain the extent of outdoor recreation activities in four distinct departmental units and their delivery systems in higher institutions of the South was also compiled.

Introduction

Data was compiled from a 1986 study of 123 respondents from 41 schools (Table 1) to a survey mailed to departmental directors of recreational sports, academic units, and student unions. Additional listings of outdoor directors from the 1986 Recreational Sports Directory was compiled in 1987. The instrument (Table 2) was designed to gather information to identify the (a) department, (b) type of outdoor activity, (c) frequency of the outing, (d) land, water or winter orientation, and (e) delivery system utilized to facilitate the activity.

Literature identifies a variety of leadership or delivery systems utilized in providing activities (products) to the participants (consumers) in higher education programs. The four systems in this study were: (a) common adventure, (b) university professional (c) outfitters, and (d) a paid local guide. Table 3 illustrates the departmental usage of these particular delivery systems.

Table 1: Participating Higher Education Institutions

Institutions

University of Alabama
University of Auburn
University of Florida
University of Georgia
University of Kentucky
Louisiana State University
Mississippi State University
University of Mississippi
University of Tennessee
Vanderbilt University

University of Arkansas
University of Houston
Baylor University
Southern Methodist University
Texas Christian University
University of Texas
Texas A & M University
Texas Tech. University
University of South Alabama
University of Alabama-Birmingham
South Florida University
Old Dominion University
Virginia Commonwealth University
Western Kentucky University
University of North Carolina-Charlotte

Duke University
North Carolina State University
Wake Forest University
University of Virginia
Georgia Tech University
Clemson University
University of Maryland

Virgina Tech
Florida State University
Georgia State University
University of South Carolina
Memphis State University
University of West Virginia

Table 2. Outdoor Trip Survey

Please take 5 minutes to complete the survey and reutrn in the stamped envelop. Thank you.

____________	____________	____________	____________
(contact person)	(department)	(university)	(location)

Do you offer off campus trips? _____No, please return survey in envelop.
_____Yes, please check the following

TYPE OF TRIP	FREQUENCY OF OUTING (# per year)		
	1-5	6-10	10+
Land-Oriented:			
backpacking			
bicycling			
camping			
hiking			
horseback			
orienteering			
rock climbing			
spelunking			
other____________			
other____________			
Water-Oriented:			
canoeing			
fishing			
kayaking			
rafting			
sailing			
SCUBA			
water skiing			
wind surfing			
other____________			
Winter-Oriented:			
x-country skiing			
downhill skiing			
snowshoeing			
winter camping			
other____________			

We utilize the ______________ delivery system to operate the trips program.

A. Common Adventure: students organize and lead all aspects of the trip.
B. University Professional: departmental staff member in charge of planning and leading the trip.
C. Outfitter: department contracts with a travel company or outfitter to direct trip.
D. Paid Local Guide: department pays students, faculty/staff, or community person to take students off campus.
E. Other________________________________
(please describe)

I would like a copy of the results.____________
(yes, no)

Table 3. DELIVERY SYSTEM USAGE FOR OFF-CAMPUS OUTINGS

	Recreational Sports	Academic Departments	Student Unions	Outdoor Program Departments	Residence Halls
Common Adventure	16	2	4	0	1
University Professional	15	11	5	3	0
Professional Outfitter	13	7	2	1	1
Local Guide (Community person or student)	12	2	2	2	0

Code:
CA - Common Adventure
UP - University Professional
O - Outfitter
LG - Local Guide (paid)

In comparison of the four departments, recreational sports programmers utilized all four delivery systems extensively. Academic units preferred in-house leaders and outfitters, whereas, student union departments relied primarily on university professionals and common adventure formats. Outdoor programs also utilized a university professional, but utilized other systems to a lesser degree.

Frequency of Outings

Table 4 ranks the popularity of eight land-oriented outings and their frequency of occurrence among the four departments.

Table 4. Land Oriented Outings

	Recreational Sports	Student Unions	HPER Academic Unit	Other Programs
1. Backpacking	21	4	10	4
2. Camping	21	5	8	2
3. Hiking	20	3	4	4
4. Bicycling	18	4	3	4
5. Rock Climbing	12	2	8	5
6. Spelunking	13	2	8	5
7. Horseback	14	3	2	3
8. Orienteering	6	1	3	3

While backpacking, camping, and hiking were ranked most popular, other activities were reported, such as Outward Bound contract courses, outdoor cooking, sand surfing, ballooning, quadrathons, hanggliding, high ropes courses, group interaction, birdwatching, and survival courses.

In Table 5 the frequency and popularity of eight water-oriented recreational activities were ranked according to popularity.

Table 5. Water Oriented Outings

	Recreational Sports	Student Unions	HPER Academic Units	Other
1. Rafting	18	5	5	5
2. Canoeing	19	4	6	5
3. Kayaking	13	1	1	0
4. Scuba	8	1	6	2
5. Sailing	11	0	0	3
6. Fishing	8	1	4	0
7. Wind Surfing	8	1	1	2
8. Water Skiing	3	1	0	0

Rafting, canoeing and kayaking were rated most popular but, other activities reported on a much smaller usage format were sea kayaking, snorkeling and tubing.

The geographical location and warm weather locations apparently did not affect the popularity, frequency and variety of winter oriented activities in southern states as noted in Table 6.

Table 6. Winter Oriented Outings

	Recreational Sports	Student Unions	HPER Academic Unions	Other
1. Downhill Skiing	20	5	4	3
2. Cross Country Skiing	10	2	2	5
3. Winter Camping	5	2	2	3
4. Snow Shoeing	1	1	0	1

Outstanding Programs

Based on the frequency of tabulations for land, water, or winter outings, institutional leaders in each department was identified. Three categories showing outing frequencies were established: (1) one to five, (b) six to ten, or (c) ten or more outings per year. Table 7 below identifies specific leaders in academic programs and the number of outdoor activities offered yearly.

Table 7. Leaders in Academic

School	Department	Delivery System	# of Act.	6-10 Yrly.	10+ Yrly.
University of Florida	Recreation	UP	11		
Mars Hill College (North Carolina)	HPERD	UP	9	Downhill ski	
North Carolina State	P.E.	UP	8	Canoe	
Old Dominion (Virginia)	P.E.	UP	5	Backpack, Bike	
University of North Carolina (Ashville)	Recreation	UP	10		
University of Tennessee (Chattanooga)	HPER	UP	8	Orienteering	Backpack, Hike, Canoe,

These institutions offered 10 or more activities or one activity 6+ times.

Code:
- CA - Common Adventure
- UP - University Professional
- O - Outfitters
- LG - Local Guide

The University of Tennessee-Chattanooga is an outstanding example of a well-rounded outdoor program. This academic program reported eight individual activities and utilized orienteering six or more times yearly, plus offered backpacking, hiking, canoeing and scuba diving ten or more times yearly. Sixteen institutions' recreational sports departments and their delivery systems is shown in Table 8 (see Appendix A). Three school programs - Georgia State University, the University of Tennessee, and the University of Texas-Austin - had a high number of activities in all three frequency categories. All three of these recreational sports departments not only offered many individual activities, but also offered very popular activities anywhere from six to ten times per year.

Leaders in student union outdoor programming is depicted in Table 9. The most outstanding program in this category, Florida Southern, had numerous activities in all three frequency categories. Although focusing on university professionals, Florida Southern had the capability to offer a number of individual activities along with selected activities from six to over ten times per year.

Table 9. Leaders in Student Union Outdoor Programming

School	Delivery System	# of Act.	6-10 Yearly	10+ Yearly
Davis & Elkins (West Virginia)	Ca, UP O	12		
Florida Southern College	UP	5	Canoe	Bike, Sail, Water Skiing
University of the South (Tennessee)	Unpaid Graduate Student	10	Hike, Rock-Climb, Canoe, Kayak	
Virginia Tech University	Up, O, LG	10		

Code: CA - Common Adventure
UP - University Professional
O - Outfitters
LG - Local Guide

The last type of agency category was classified as "additional sponsorship" due to the variety of different departments so involved. Table 10 indicates this unique approach with Appalachian State (North Carolina) utilizing a department in Student Affairs to offer many activities in all three frequency categories. Duke University also had a unique program as it reported a residence hall format to facilitate multiple activities.

Table 10. Leaders in Outdoor Programs (Additional Sponsorship)

School	Department	Delivery System	# of Act	6-10 Yrly	10+ Yrly
Appalachian State (North Carolina)	Student Affairs	UP, LG	17	Bike, Canoe Hike Camp Kayak	Horseback, R-climb, Caving, Rafting, XC-ski, Skiing
Duke (North Carolina)	Residence Hall	CA, O	11	Camp	
Sweet Briar (Virginia)	Student Affairs	UP, O	11		Hike
University of North Carolina (Charlotte)	Venture: Student Affairs	UP	10	Backpack Canoe	
Virginia Commonwealth University	Student Affairs	Unpaid Student Volunteer	11		

Code:
CA - Common Adventure
UP - University Professional
O - Outfitter
LG - Local Guide

Conclusion

One can see from the survey responses recorded in the previous tables that outdoor programming is well entrenched in the southern United States. The range of the climate and geography, when combined with the diversity of natural resources, generally within easy driving distance, enable colleges and universities to offer a variety of programs on a 12-month basis. This enables a university, such as the University of Mississippi, to expand beyond the local abundance of lakes and streams into white water rafting in Tennessee, snow skiing in North Carolina, and salt water activities in Florida. As shown in Table 11 (Appendix B), thirty-one southern outdoor education/recreation programs offer a wide variety of off-campus experiences. Although a program may offer an abundance of individual activities, most programs are particularly suited to the geography and climate of a particular region. For example, canoeing at Southwest Texas State University and Florida State University, and a wide range of other activities can also be included under the land and winter oriented categories. This one common denominator is available to all thirty-one programming leaders regardless of the delivery system or sponsoring system.

The southern region of the United States also is one of the fastest growing regions in terms of programmatic expansion. As universities attempt to meet needs of the total student population, they are expanding their curricula to include new skill-oriented courses and are offering credit and non-credit courses to fill recreational voids not served by commercial interests.

Appendix C identifies fifty-one higher education programs, departments, and directors who are meeting the expanding outdoor recreation needs of their respective university community. This illustrates the response to a varied and dramatic growth of outdoor oriented activities of this region.

To meet an expanding demand from tourists, universities, and commercial operators, the southern region's public agencies often include outdoor education/recreation resource information. Appendix D identifies existing agencies in the region for additional assistance in programming outdoor activities in the south.

The authors are excited about the positive trends in outdoor program and course expansion as reflected by research in the southern United States. As noted, there is an abundance of outdoor offerings under the direction of a variety of departmental sponsorships and delivery systems. Also, there is a representative cross section of outdoor activities offered by leaders in the field, and an ever expanding list of new programs and courses at institutions of higher education in the South. These programs, in combination with the public and private efforts of tourism agencies and commercial interests found in the region should assist more individuals to capitalize on the resources in close proximity for their specific recreation needs.

APPENDIX A

Table 8. Leaders in Recreational Sports Outdoor Programming

School	Delivery System	# of Act.	6-10 Yearly	10+ Yearly
Alabama-Birmingham	CA, UP, O	7	Camp	
East Carolina (North Carolina)	CA, UP, O	11	Canoe	Horseback
Florida State	LG, O	9		Canoe
Georgia	LG	14	Backpack, Horseback, Rock-Climb, Cave, Canoe, Raft, Wind Surf	
Georgia State	UP, LG	19	Downhill Ski, Horseback, Rock climb, SCUBA, Wind Surf	Backpack, Bike, Kayak, Sail, Cave, Canoe, Raft, Water Ski
Georgia Tech	CA, UP, LG	11		Backpack, Bike, Camp, Rock Climb, Cave, Canoe, Kayak, Raft
Ole Miss	UP, O, LG	14		SCUBA
South Florida	UP, O	11		
Southwest Texas State	CA, UP	6		Canoe, Kayak, Raft
Tennessee	CA, (Sport Clubs) Only	14		Backpack, Camp, Hike, Horseback Rock Climb, Cave, Canoe, Kayak, Raft, SCUBA, Water Ski, Downhill Ski
Texas A&M	LG	11	Rock Climb, Canoe	
Texas Tech	UP	17	Backpack, Camp, Hike, Raft	Downhill Ski
Trinity (Texas)	CA	10		
University of Texas (Austin)	LG	16	Backpack, Bike, Kayak, Downhill Ski	Camp, Hike, Horseback, Rock Climb, Canoe, Fish
University of Texas (El Paso)	CA, UP, O	12	Downhill Ski, Bike	
Vanderbilt (Tennessee)	CA (Sport Clubs Only)	11	Bike, Camp, Rock Climb, Cave	Backpack, Sail

Code: CA - Common Adventure UP - University Professional O - Outfitters LG - Local Guide

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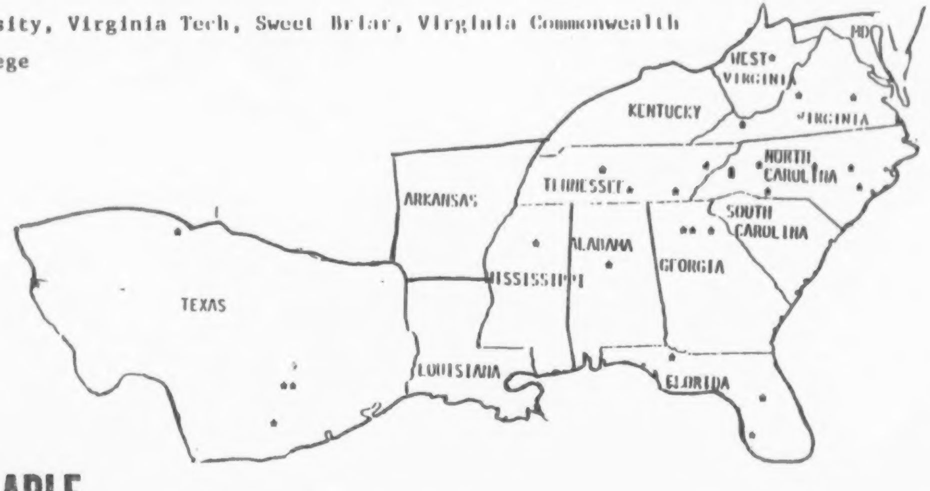
APPENDIX B

Table 11

Sample of Outdoor Programming Leaders in the South
(with emphasis on outings/credit classes)

Alabama	University of Alabama-Birmingham
Arkansas	
Florida	Florida State University, University of Florida, Florida Southern, University of South Florida
Georgia	University of Georgia, Georgia Tech, Georgia State University
Kentucky	
Louisiana	
Maryland	
Mississippi	University of Mississippi
North Carolina	Appalachian University, Duke University, University North Carolina-Charlotte, North Carolina State University, University North Carolina-Ashville, East Carolina State University, Mars Hill College
Tennessee	University of South, Vanderbilt, University Tennessee-Chattanooga, University Tennessee Knoxville
Texas	Southwest Texas State, Texas A&M, Texas Tech, University Texas-Austin, University Texas-El Paso, Trinity
Virginia	Old Dominion University, Virginia Tech, Sweet Briar, Virginia Commonwealth
West Virginia	Davis & Elkins College



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APPENDIX C

*Southern Region Outdoor Programs

SCHOOL	DIRECTOR/CHAIR	DEPARTMENT	LOCATION
Alabama - Birmingham	Andy March	Rec Sports	Birmingham
Appalachian State	John Crotts	Outdoor Program	Boone, NC
Arkansas	Craig Edmonston	Rec Sports/HPER	Fayetteville
Baylor University	Buddy Gilchrest	HPE Dept.	Waco, TX
Central Piedmont Community College	David Brown	Outdoor Rec	Charlotte, NC
Clemson University	Gordon Howard	PRTM	Clemson, SC
Davidson College	Gerald Hutchinson	Davidson Outdoor Center	Davidson, NC
Davis & Elkins College	Patty Kershnet	Outdoor Rec - Student Adm.	Elkins, WV
East Carolina State	Charles Cox	IM-Rec Services	Greenville, NC
Emory University	Steve Erickson	Rec Services	Atlanta, GA
Ferrum College	D. Hensley	Rec & Leisure	Ferrum, GA
Florida Atlantic	Karen Boudrie	Campus Rec	Boca Raton
Florida Southern College	B. McDaniel	Student Center	Lakeland
Florida State	Susan Limestall	Campus Rec	Tallahassee
Florida University of	Stephan Holland	Dept. of Rec	Gainesville
Georgia State	John Krajka	Rec Services	Atlanta
Georgia Tech	Outdoor Dir.	Student Athletic Complex	Atlanta
Georgia University of	Donna Waters	Rec Sports	Athens
Longwood College	Rena Koesler	Outdoor Rec	Farmville, VA
Mars Hill College	Tom Coates	HPERA	Mars Hill, NC

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SCHOOL	DIRECTOR/CHAIR	DEPARTMENT	LOCATION
Memphis State	Tony Friday	Student Act.	Memphis, TN
Middle Tennessee State	Glen Handley	Campus Rec	Murfreesboro
Mississippi University of	Wayne Taylor	Ole Miss Outdoors	University
Murray State	Jim Bauer	Campus Rec	Murray, KY
North Carolina Ashville	Helen Carroll	Athletics, REC & IM	Asheville
North Carolina Charlotte	Sandy Kohn	Venture Program	Charlotte
North Carolina State	Mike Wallace	Student Center	Raleigh
Northern Kentucky	Sarah Cobwin	Campus Rec	Highland Heights
Radford College	Gary Nussbaum	Student Activities	Radford, VA
South University of	Carrie Ashton	Student Activities	Sewanee, TN
South Florida	Eric Hunter	Campus Rec	Tampa, FL
Southwest Texas State	John Johnson	Rec Sports	San Marcos, TX
Southern Mississippi University of	B. J. Powers	IM-Rec Sports	Hattiesburg
Tenn-Chattanooga	Robert Norred	HPER	Chattanooga, TN
Tenn-Knoxville	Judy Bryant	Recreational Sports	Knoxville
Texas A & M	Jana Bradley	Student Union	College Station, TX
Texas A & M	Patsy Greiner	IM-Rec Sports	College Station, TX
Texas Christian	Steve Kintigh	Rec Sports	Ft. Worth

SCHOOL	DEPARTMENT/CHAIR	DEPARTMENT	LOCATION
Texas University of	Pete Schaek	Rec Sports	Austin
Texas Tech	Barry Kirkpatrick	Rec Sports	Lubbock
Texas Tech	Dr. Jeff Stuyt	HPER	Lubbock
Texas-El Paso	Brian Zweber	IM-Rec Services	El Paso
Trinity University	Jim Potter	PE/Athletics/ Rec	San Antonio
Vanderbilt	Sam Hirt	Campus Rec	Nashville
Virginia University of	Jerry Rupert	Rec Sports	Charlottesville
Virginia Commonwealth	George Elliott	Rec Sports	Richmond
Virginia Tech	Gail Kirby	Student Activities	Blacksburg, VA
West Carolina	William Clark	University Center	Cullowhee, NC
West Virginia	Tom Pinto	IM-Rec Sports	Morgantown, WV

*List compiled from 1987 Outdoor Trip Survey and information gathered at the 1988 National Conference on Outdoor Recreation.

APPENDIX D

Southern States Resources Guide

Alabama	Bureau of Tourism & Travel, 532 S. Perry, Montgomery, AL 36130
Arkansas	Arkansas Commerce, One Spring Bldg, Little Rock, AR 72201
Florida	Division of Tourism, Collins Bldg, Tallahassee, FL 32399
Georgia	Hospitality & Travel Association, 600 W. Peachtree #1500, Atlanta, GA 30308
Kentucky	Department of Travel Development, Capitol Plaza Tower, 2nd Fl, Frankfort, KY 40601
Louisiana	Department of Culture, Recreation & Tourism, P. O. Box 44291, Baton Rouge, LA 70804
Maryland	Maryland Commerce, 60 West St. #405, Annapolis, MD 21401
Mississippi	Division of Tourism, P. O. Box 22825, Jackson, MS 39205
North Carolina	Division of Travel & Tourism, 430 N. Salisbury, Raleigh, NC 27603
South Carolina	South Carolina Commerce, 1301 Gervars #520, Bankers Trust, Columbia, SC 29201
Tennessee	Department of Tourism, 601 Broadway, Knoxville, TN 37202
Texas	Department of Highways, Travel Division, 11th & Brazos, Austin, TX 78701
Virginia	Division of Tourism, 202 N. 7th #500, Richmond, VA 23219
West	Department of Commerce, Market-Tourism Division, Charleston, WV 26305

WATER SPORTS - Resource Guides

A Canoeing & Kayaking Guide to the Streams of Tennessee, Menasha Ridge Press, P. O. Box 59257, Birmingham, AL 35259

Appalachian Whitewater, The Southern Mountain Menasha Ridge Press, P. O. Box 59257,Birmingham, AL 35259

Texas Rivers & Rapids, P. O. Box 60, Pipe Creek, TX 78063

The Buffalo River Country, Ozark Society, Box 2914, Little Rock, AR 72203

Alabama Canoe Rides & Float Trips, University of Alabama Press, University, AL 35486

Carolina Whitewater, Pisgah Providers, Box 101, Morganton, NC 28655

WINTER WILDERNESS TRAVEL AND CAMPING

by

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ABSTRACT:

Winter transforms earth's landscape into a wonderland of incredible beauty, a unique and special place, exquisite, incredibly powerful, yet incredibly fragile. Viewed differently, winter in wilderness areas can be hostile, forbidding, and unpleasant. The purpose of this article is to focus on the knowledge and skill needed for safe and enjoyable travel and camping in wilderness in winter. The breadth of the topic prohibits an indepth study of any particular aspect of winter wilderness travel and camping; therefore, this article will consist of an overview which will be of particular interest to the novice and, perhaps, intermediate level winter traveler and camper. This study will be limited to travel under one's own power in wilderness areas cold enough to produce snow in winter.

Introduction

Why Travel and Camp in Winter?

Those who have not experienced wilderness in winter often ask, "Why would anyone want to travel and camp in wilderness in winter?" Usually, one visit to wilderness in winter answers the questions, converts the skeptic into an enthusiast, and exerts a magnetism that attracts the venturer back time and time again.

The wilderness landscape is one of beauty in winter. Nature paints subtle shapes with snow and more powerful, angular, jagged ones with ice, each serving as a pallet for the special colors of winter's days and nights. The scars of man's overuse from interest and love, and from man's destruction from ignorance or indifference are covered by snow, and all is made new and pristine. Hidden are the litter of humans and the trails cut by vehicles, pack animals, and human feet. The earth gets a visual overhaul and a fresh start. Each new snow erases the evidence of former use and presents the traveler with a glorious new start in a world no one else has seen or experienced.

Reduced human use is an attraction of wilderness in winter. Except for rare cases, wilderness, even in areas of heavy summer use, is relatively uninhabited in winter. A degree of solitude and personal interaction with nature that frequently escapes the summer traveler is available to those willing to venture into wilderness in winter.

Large animals, such as deer, elk, big horn sheep, bison, elk, coyotes, prong horn antelope, trumpeter swans, are much more tolerant of human presence in winter. The animals, which come down to the valleys form the high country, are so intent on surviving the rigors of winter that they often ignore humans. Two notes of caution: 1) never get close enough to wild animals to endanger their health and chance of surviving, particularly in winter when life often hangs by a thread, and 2) always remember that wild animals are wild, unpredictable, and capable of doing you extreme harm. No picture is worth putting their life or yours in peril. To treat wild animals improperly is cruel and behavior unacceptable for a wilderness traveler. A human literally can hold in his hand the key to survival for a wild animal.

Some of the summer concerns and pests, such as bears, snakes, and insects, are absent or inactive in winter. Winter also presents opportunity for special wilderness activities and events, such as ice fishing, skating, cross country skiing, climbing, and other organized and individual sports.

Most winter wilderness activities are relatively inexpensive, when compared with many other recreational sports, such as fishing, golf, downhill skiing, etc. Good equipment does represent a financial investment, but is quite durable when properly maintained. Also on the plus side, there are no lift tickets, lodging costs, and no lift lanes.

One of the most enjoyable reasons for traveling and camping in winter is the numerous and varied challenges one encounters. In comparison with other seasons, winter travel, in exchange for the advantages and marvels enumerated above, demands more skills, additional conditioning, and extracts a greater toll for mistakes. Wilderness in winter awaits to serve as a standard against which one can measure, and by which one can validate, his skills.

Uniqueness and Challenges of Winter for the Wilderness Traveler

Safety

The uniqueness of winter travel presents several challenges that are not present in other seasons. Safety is of primary interest, because of the increased consequences for mistakes or bad luck. One has a smaller margin of error before unpleasant and possibly disastrous results occur. Mistakes that would merely cause inconveniences in the summer can have grave consequences in winter. Wilderness in winter is a very hostile environment; nature does not care; one enters on nature's terms and lives by nature's rules.

Because there is reduced chance for help/rescue, a person or party must be self-sufficient. In winter, a wilderness traveler is much more isolated, and in cases of injury or bad weather, mobility of the victim and that of rescuers is greatly reduced as is the ability to signal. Good skills, careful planning, proper equipment, good judgement, clear thinking, and constant awareness and care are of utmost importance to insure enjoyment and safety.

Avalanche

Few things in nature are as gentle as a single snowflake. Wind blows it off course; the sun or a touch melts it. But snowflakes do not fall alone; they fall in billions. When combined, snowflakes form a tremendous force. The power of an avalanche is awesome, capable of traveling at speeds up to 200 miles per hour, weighing up to 2,000,000,000 pounds, and striking at forces up to 200,000 pounds per square meter. Avalanche is of constant interest to the wilderness traveler, who must learn: avalanche formation and causes, avoidance of avalanche areas, how to cross avalanche areas when of absolute necessity, what to do if caught in an avalanche, avalanche rescue, and avalanche equipment.

Day Length

The shorter days and longer nights of winter offer special challenges to winter travelers. The daylight hours available for travel and taking down and setting up camp are quite short, and distances covered will vary considerable from travel in other seasons. The long winter nights are welcomed at the beginning of a trip, but can become a challenge to fill as one catches up on his R & R. A favorite companion can be a terrific asset in this regard. It is suggested that daylight time be set aside to select and set up camp. Such tasks are difficult to accomplish in the darkness and increased cold after sunset.

Moisture

In contrast to other seasons, moisture in winter does not leave. In winter, rather than evaporating, moisture freezes, accumulates, and just stays and stays. It seems to get into and on everything. In many cases, it can be eliminated by shaking or brushing.

The problem comes when moisture freezes in insulation, such as sleeping bags, and accumulates. For example, on a recent American expedition to the North Pole, the sleeping bags accumulated moisture to the point that each bag weighed approximately 50 pounds. The opportunity of each expedition member to reach the pole was in jeopardy until it was decided to dispose of one-third of the bags and sleep three people per two bags zipped together.

Sources of moisture are both internal (perspiration, incessant perspiration, and sometimes breathing) and external. Although every effort must be made to avoid perspiring (by taking off clothing, particularly items covering the head, ventilating, etc.), internal moisture, in the form of incessant perspiration, is going to be produced by the body, and a plan for dealing with it must be devised. The two methods of dealing with internal moisture are "vapor pass" (a term coined by the author) and vapor barrier.

In a vapor pass system all moisture must pass from the body through all insulating layers and the shell layer to the outside. Two common problems encountered when using the vapor pass approach are: 1) the moisture passing outward can render insulation materials ineffective, and 2) when the outer layer of the garment is cold enough to cause the moisture to freeze, an impenetrable barrier is formed, trapping inside the accumulating moisture. A vapor pass system works best in milder winter wilderness temperatures. A person using a vapor pass approach would dress with a thin, medium or expedition thickness wicking layer next to the body; as many layers of insulating fabrics as appropriate, and a shell (60-40 cloth, Gore-Tex, etc.) that will permit internal moisture to pass through to the outside, while keeping out external moisture.

A vapor barrier consists of a thin wicking layer next to the body, followed by a vapor barrier layer comprised of coated nylon or other material which will not permit vapor to pass. The next layers are comprised of insulating garments as appropriate, and the outside layer is a shell which will not let external moisture get into the insulation. The shell does not have to deal with permitting internal moisture to exit, because there is no internal moisture trying to escape. It is trapped beneath the first vapor barrier layer. A wearer of a vapor barrier system will experience some feeling of moisture, but the body does not continue to produce as much moisture when a particular level of moisture is reached. A vapor barrier system works better when sleeping than when doing strenuous exercise. Advantages of a vapor barrier system include better retention of moisture (which is needed in cold and at altitudes and which means that a person does not have to consume s much water in those situations); dry insulation, permitting use of additional types of insulation in moist conditions; and the ability to use less expensive outer shells, because permitting internal moisture to pass is not a factor. A vapor barrier system works best in temperatures below approximately 10 degrees Fahrenheit.

Care should be taken not to breathe into a garment or sleeping bag. This is tempting, because a person feels warmer, and the air he is breathing is being warmed by the garment or sleeping bag. Instead, warm the incoming air and the head with a face mask or device such as a stocking held to the face by elastic. When time and weather permit, try to dry in the sun items that have collected moisture.

Cold

Winter cold can present challenges in several areas--the human body, clothing, body functions, sleeping, cooking/eating/liquids, photography, and batteries.

Effects of Cold on the Human Body

Human body temperatures must stay very constant. The problems of being too cold range on a continuum from discomfort to death, which results when human body temperatures get very far from 98.6 degrees Fahrenheit.

Hypothermia, a lowering of the core temperature of the body resulting in diminished body functions, is a dangerous problem. Symptoms include: phase 1 -- marked shivering, fast pulse, rapid respiration, paleness, slowing of pace, poor coordination, stumbling, lurching gait, thickness of speech, and poor judgement; phase 2-- slow pulse and respiration, decreased shivering, cool or cold body; and phase 3 -- confusion and poor thinking, loss of consciousness, and death. One of the most sinister things about hypothermia is that it affects the mind and thought processes of the victim, rendering the mind less effective when the victim needs it the most. Often, a victim must depend on observations of others to diagnose hypothermia. The best way to deal with hypothermia is prevention. Know that it will occur when the body gets cold. Carry an adequate supply of clothing and emergency equipment to deal with the worst scenario into which the current situation could evolve. To treat hypothermia, get the victim warm as soon as possible. Give internal heat by means of warm liquids; put on war, dry clothing; put into a sleeping bag, share body heat, etc.

Frostbite occurs when cells of the body freeze, usually in the extremities. Prevention is important and usually possible. Because the body part becomes numb and because a person does not see himself, one is often dependent on others to see the white appearance of frozen skin. Frostbite is caused by extreme cold, exposed skin, improper protection of body parts, and lack of circulation, which can be caused by vasoconstriction and clothing that is too tight. Treatment for frostbite includes warming as soon as possible with clothing, warm water, or whatever heat is available, with care being taken not to burn the numb frozen part. Do not thaw if the part will freeze again later. Put clean cloth between frozen parts, and keep them elevated if possible. Do not rub with snow, and do not try to walk out on frozen feet unless absolutely necessary.

Be very careful not to fall into water in winter, for the consequences can be quite dire unless others can help rescue and warm the victim in a short time. Care must be taken to recognize streams that may be hidden under the snow and not to cross streams or bodies of water unless it is safe to do so.

Clothing

Proper clothing is very important in staying warm. Wind, and moisture are the enemies of the insulating qualities of the fabrics. Cotton is a very poor insulator because it retains moisture. In winter wilderness situations, "cotton kills." The most frequently used natural insulators used are wool and down.

Wool, proven over centuries to be a good insulator, has the advantage of keeping one warm, even when wet. The disadvantages of wool are that it does not compress very well, is relatively heavy for its ability to insulate, and makes some people itch if it touches the skin.

Down, the very fine feathers found next to the skin of waterfowl such as ducks and geese, is the lightest substance known to man for its insulating qualities, being twice as warm per unit of weight as the next warmest insulator. Down is also extremely compressible. The disadvantage of down is that it loses its loft, and therefore, its ability to insulate, when it gets wet. Down is expensive when the initial purchase price is considered (approximately two or more times as expensive as synthetic insulators), but is less expensive over the life of the item than synthetic insulators, lasting up to five times as long as synthetics when give proper care.

Synthetic insulating materials frequently are used in winter travel. Each has its endearing and frustrating qualities. Almost all have an important feature--they keep one warm, even when wet. Synthetic insulators, despite advertising claims to the contrary, have two universal negative traits -- they are heavy per unit of insulation, and they do not compress very well. Commonly used synthetic insulators include *Polyguard* (one continuous filament held together to form a batting, making it easy to sew and work with); *Quallofil* (four holes, simulating the single holes in the fur of some northern animals, such as caribou and polar bears, through the length of each piece, permitting it to trap more spaces of non-moving air; looks and feels much like down; must be sewn with baffles, because it moves about); *Thinsulate, Sontique, etc.* (thinner, more dense nylon; made like a carpet, with one "fuzzy" side, which may be worn in or out; very good insulator); and *bunting* (also called *fleece* and other brand names; has good appearance; does not "pill" as badly as fiberpile, and is a good insulator). If your favorite insulator has not been mentioned, please forgive, realizing that technology and market trends move quite quickly.

In winter wilderness travel, the head is of considerable importance in heat regulation. One or more balaclavas (thin, medium, or thick) are good insulation. A shell, often in the form of a hood attached to the shell garment, is needed to protect from the wind and moisture. Also, a hat to protect from the sun is important.

To protect the feet, two pair of socks are usually worn. A thin, wicking, preferably slick inner pair, usually of olefin, polypropylene, silk, or wool is worn under a thick outer sock, which is usually made of wool or a synthetic material. Outer socks may be long enough to extend to the knee or beyond, depending on personal preference.

The type of shoes/boots depends on the activity--skiing, climbing, or snowshoeing. Cross country ski boots choices include light weight for track and short ski trips, medium weight boots for day or overnight ski trips, and warmer single or double boots for extended trips. Taller, stiffer boots are used for telemark skiing, and plastic boots are frequently used in the most severe and extreme winter backcountry skiing conditions. Plastic double boots dominate the winter climbing boot market. For snowshoeing, one can wear almost any warm and durable winter boot that is comfortable. Air Force boots, called "bunny" or "Mickey Mouse" boots are warmest.

Hands should be protected with a wicking layer (thin inner glove made of a good wicking material), insulating layer (made of a good insulating material) and a shell layer, preferably with a non-slip material on the palm. Mittens are warmer than gloves.

Body Functions

Common body functions and how you respond to them are altered by cold. Cold drives fluids into the trunk of the body, making the urge to urinate more frequent. An interesting decision is to lay awake at two a.m. trying to decide which is most uncomfortable -- laying in the sleeping bag for the rest of the night with a full bladder or getting out of the sleeping bag to empty the bladder. A container with a good lid is very useful on long nights or periods of bad weather to keep in the tent as a urine receptacle. Anything done with the pants down should be planned carefully and accomplished, not hurriedly,, but in a short period of time, and with due consideration to windage. Used toilet paper should be carried out. In selecting the location of the rest room give consideration to the water supply and spring and early summer esthetics. In places where body wastes remain for very long periods of time, such as a big mountain like Denali, special disposal techniques must be followed.

Sleeping/Shelter

Shelter is necessary in most situations in winter. Natural shelters appeal because some, like snow caves, can seem cozy, are warm, and give a feeling a accomplishment to the builder. But snow caves can be damp, and usually take considerable time to build. Temporary or short term shelters that are easier than snow caves to make include placing a roof of snow, branches, and/or other materials on top of an area hollowed out near the base of a tree or on top of a trench dug in the snow. Winter wilderness travelers should know how to build emergency shelters from natural materials and should practice building and sleeping in emergency shelters in nonemergency situations.

A sturdy, durable four season tent is a necessity for winter travel and camping. Features normally found in winter tents include better materials and construction, vestibule, tunnel entrances, cook hole, etc. Set up camp in a sheltered area which does not have trees overhead. If traveling on a glacier, check to be sure a crevasse is not under the tent site, and mark with wants the area that is safe for travel without roping. Tents need to be firmly attached to the snow by snow flukes, pickets, skis, trees, logs, or objects purposely buried in the snow.

Sleeping bags must be sufficient to the occasion. Desirable features for winter bags include sufficient loft; insulation adequate for the circumstance; cover to deal with external moisture; good draft tube at the zipper; draft collar; differential cut; and adequate length for putting stove, boots, water, and other items inside at night so they will function in the morning. Two sleeping bags zipped together or a single bag zipped to a bottom insulated from the snow by sleeping pads can provide a warm cozy, sleeping experience for persons sharing one bed.

It is important to insulate the body form the snow beneath. A combination inflatable mattress filled with foam is quite popular, and a one-half inch closed cell pad works well. Cautious types may want to carry one of each. When using inflatable mattresses in severe conditions, be sure to carry a patch kit.

Cooking/Eating/Liquids

Cooking and eating can be a challenge in wilderness in winter. It is important to consume sufficient fluids, and considerable time often is spent obtaining water. When running water is not present, the only fluid available is form melted snow, usually procured by melting clean snow by means of a stove. Fuel might be saved at non-travel time by using the sun's heat to melt snow you have spread on a dark piece of plastic.

In winter wilderness travel, the stove(s) must work, so select a stove capable of dealing with extremes of altitude, wind, and cold. Learn to use the stove with skill, and practice repairing it before winter wilderness use. In extreme conditions, carry two stoves, spare parts, tools, and instructions. Determine and carry the fuel needed to melt snow into water for the group for the entire trip, making sure the fuel does not spill on other items. In temperatures below zero, place the stove and a fuel container in the sleeping bag at night to insure good starting in the morning. Do not plan to use a wood fire, which is very difficult to build and maintain in winter.

Prepare a firm area for the kitchen in much the same way as the sleeping area is created -- stamp out a place in the snow with the skis, then the feet. The snow under the stove must be firm, and a piece of insulation under the stove is desirable. Otherwise, the hot stove tends to lean and become unstable, spilling is precious product. The kitchen can be elaborate or basic, depending on your taste and the time available for preparation. A shovel is handy for preparing shelves, keeping a supply of clean snow to melt, etc. Start the melting process with a little water in the bottom of the pan. If possible, avoid cooking int he tent because of the dangers of suffocation and fire. Some people purify melted snow by using chemicals or bringing the water to a boil; others do not purify melted snow because they feel the snow is pure.

Food selection is based on personal taste and the body's dietary needs in cold weather. Some meals will be warm (more palatable, psychologically pleasing, and good to warm the body) or cold (because of the time it takes to set up the kitchen and cook). A warm thermos of soup or hot drink is particularly good during the day. Alcoholic beverages in winter actually make one colder because they facilitate loss of body heat, and are to be avoided for that reason and because they adversely affect mental processes at a time when one cannot afford to make mistakes.

Dish washing in the cold is no fun. The effects of cold on greasy containers is obvious. Rather than wash dirty dishes, it is usually adequate and prudent to let the contents of the container solidify, then scrape them out.

Photography

The incredible beauty of the winter landscape and is inhabitants entice one to record their wonder and appeal. Yet, winter photography is one of the most difficult and challenging situations for a photographer. Photographic challenges are numerous.

Batteries often will not work in the cold, and most current cameras are dependent on batteries to function properly. Some good solutions include using equipment that is not dependent on batteries, using a container with a long cord which permits the photographer to keep inside his coat the batteries that power his camera, and sing lithium batteries (fine for some cameras, undesirable for others). Less successful solutions include constantly changing batteries and putting the camera inside a parka. Film is brittle; handle carefully and wind slowly. In cold, when film is wound fast, static electricity can leave streaks on pictures.

Moisture forms on cold objects, including cameras, that are taken into warm areas. The best solution is to keep the camera in a cold environment. If the camera must be taken into a warm environment from a cold one, seal the camera in a plastic bag and let it warm slowly. Insure that snow does not enter the camera body when changing film, and take care not to breathe on optics or onto an opened camera. Handling cold metal with bare skin is painful at best, and, at worst, the skin can stick to the metal. Be sure to always wear gloves when handling the camera, and place tape on the camera back where it touches the face.

Snow and ice present difficult exposure problems. Light meters are calibrated to expose every scene eighteen percent gray. Snow should appear brighter than eighteen percent gray, so manual compensation usually should be made--one-half F stop darker when using incident meters and one-half F stop lighter when using reflected meters. Experiment with your camera to determine compensation needs, and bracket, bracket, bracket! If one will take the time necessary to learn to photograph in snow and will expend the effort needed to take pictures when he feels too tired and cold to bother, he will be rewarded with some of the most thrilling and beautiful pictures of his life.

Batteries

Light is important as a convenience, and sometimes for safety, on long winter nights. All batteries are affected by cold, but some are affected much more than others. Lithium batteries cost a little more, but have a five to ten year shelf life, are relatively unaffected by cold, and provide full power throughout the life of the battery. Carry spare batteries and bulbs. A light that can be worn on the head frees both hands to do a number of necessary things. It is wise to carry a candle lantern and spare candles. These save flashlight batteries when cooking, using the rest room, and doing housekeeping. They are also psychologically friendly and are claimed to even add a bit of heat in a tent.

Sun

The sun is the main source of warmth on our planet and is welcome on winter days ass a source of heat and supplier of light to enhance the beauty of the landscape. But the sun also can cause problems--blistering of the skin and the long range problems of skin cancer and permanent eye damage. The problem is exacerbated by snow and clouds, which give the light more surfaces off which to reflect, and by high altitude, where there is less atmosphere to shield people from the damaging ultra violet B rays. Even on cloudy days, severe damage can be done. The solution is to keep the sun from reaching parts susceptible to damage. To protect skin, wear clothing, use sun block (number 15 or higher), wear a protective hat, and protect lips with treatments containing sun blocks. To protect eyes, wear glasses or goggles that state that they screen out all or almost all ultraviolet light.

Weather

Various aspects of the weather provides challenges for the winter traveler. Wind creates a number of problems, including increasing effects of cold temperatures (wind chill factor); reducing the insulating ability of fabrics; reducing visibility by means of blowing snow; making travel against the wind more difficult; and making routine chores such as cooking, setting up and breaking camp, and going to the rest room difficult, even impossible. Sudden storms can create problems. Heeding weather forecasts and studying environmental clues help to prevent being surprised. If a storm gets too bad, stay put and wait it out.

Navigation

Snow can cover navigational aids, such as tracks, signs, landmarks, etc. Travel in a whiteout can be dangerous; be careful about falling into streams or over cliffs. Use of wands aids navigation, if you are traveling the same route both ways.

Glaciers

Glaciers are beautiful and interesting, and can create hazards which the winter traveler does not encounter on snowfields. Glaciers cover eleven percent of the planet's land area and hold more fresh water than is found in all the world's lakes, ponds and rivers combined. There are 1,650 glaciers in the contiguous United States.

Glaciers, which are comprised of ice formed by the pressure of accumulated snow, are moving rivers of ice. The movement causes cracks, or crevasses, into which travelers can fall. Care must be taken to learn the important skills necessary for safe glacier travel, such as crevasse location and identification,, crossing crevasses, rigging of equipment (sleds/drag bag, pack, etc.) for glacier travel, self rescue from a crevasse, rescue of others from a crevasse, proper rope technique and signals, and proper ice axe techniques.

Steep Slopes

Steep terrain presents additional problems to the winter traveler/climber. Additional equipment, such as crampons, ice axe, and rope, are a must. Learning and practice should be in controlled situations. Skills needed on steep slopes include belaying, roped travel, self-arrest, step cutting, plunge stepping, and glissading. Dangers on steep slopes including pulling the rest of the party down the mountain with you and sliding over drop-offs.

Methods of Winter Wilderness Travel

Precipitation in winter forms snow or ice, and each presents special problems for the foot traveler. Snow is soft and permits the traveler to bog down to considerable depths, making travel tiring and difficult. Ice is one of the slickest of substances, and travel on ice requires the use of crampons and other specialized tools. The following methods of foot travel in winter have evolved through many thousand years of innovation, use, and experimentation. All are good and have their place; each has its advantages and disadvantages. A winter traveler should experiment and take his choice of method of travel/equipment, depending on the situation and personal preference.

Snowshoeing

The advantages of snowshoeing are that the traveler is on a relatively stable base, can carry large loads, and can learn adequate snowshoe techniques in a short time. The major disadvantage of snow shoes is that one cannot glide; he must walk every step of the way. Snowshoe technique resembles walking. The feet must be kept further apart than in walking; the wider the snowshoe, the wider the stance must be. Although older, classic, and "mantle" snowshoes are made of wood and leather, most current snowshoes are made of aluminum,, neophreme, and plastic. The shape (length, width, curve of tip, etc.) is determined by the terrain, use, and the size of the total load.

Skiing

Skis are a very popular method of traveling through wilderness in winter. Skies, bindings, shoes, and poles come in a wide variety of shapes, materials, and characteristics, with each model serving its particular niche in cross country skiing.

Track skiing is usually done with very light gear, with the skier carrying little or not gear. Day skiing is done with light gear, with some safety gear, but not heavy loads, being carried. Extended skiing involves the use of more and stronger equipment, probably utilizing skis with steel edges, perhaps involving double boots, etc. Extreme skiing, which involves climbing to the area to be skied and skiing down, usually demands gear which is a combination of downhill and cross country equipment. The heel will be left free on level and up hill stretches and will be firmly attached to the boot for the downhill phase. Cross country ski techniques are variations on walking and sliding at the lower levels and require considerably more sophisticated skills at the upper levels. Skiing with a back pack requires more strength and stamina, and limits the type of skills that can be performed.

Choices must be made in equipment--waxed versus no-wax bottoms; three pin versus cable versus other type bindings; light weight poles versus adjustable, self arrest, avalanche probe poles. Additional equipment, such as ski skins to provide traction on steep slopes, are of importance in various situations.

Climbing

Winter climbing presents severe challenges for climbers. Routes have more dangers and take longer to complete. Equipment needed for winter climbs includes ice axe, piolet, crampons, pickets and/or snow flukes, ice screws, and many items discussed earlier, such as wands, avalanche equipment, and specialized clothing and camping equipment. Solo climbing in winter is particularly dangerous. Ice climbing requires additional equipment and skills.

Transporting Goods

Winter travel usually requires more gear than summer travel to the same place. Not only must additional equipment be carried, but it is more difficult to carry it in snow with "boards or tennis rackets" strapped to your feet. Three ways to lighten the loads carried in winter wilderness travel are: cache in advance, arrange for drops, and ferry and cache, with the latter being probably the most "sporting."

Usually, the equipment is carried by the traveler. if the total load is too heavy to carry on the back, it is usually carried on a slid or in a haul bag. Sleds range from the discount store variety to specialized sleds built for winter expedition travel. Drag bags are less expensive than specialized sleds, but do not offer quite as much control. Drag bags are easier to carry out of wilderness when the load has been consumed.

In winter wilderness travel, if the load cannot be carried in one trip, ferry and cache techniques are employed. Be careful to bury the cache deep enough to keep critters and birds from sampling, and be sure to mark the spot so it can be located later.

Where to Go to Experience Winter Trail Camping

Your favorite places in summer are probably the places you would most enjoy going in winter, provided they are accessible and not in areas of avalanche danger. Some of the crown jewels of winter travel are Yellowstone, Canadian Rockies, Grand Teton, and your favorite place that I have just omitted. It is almost assured that wilderness in winter will offer you a rewarding, exciting, beautiful, valuable, unforgettable experience. If you are reluctant to undertake such a venture on your own, there are a number of outfitters, ranches, and guide services who will help you safely enjoy wilderness in winter.

WHAT TO TAKE

A sample packing list is attached. The author works form this list to insure that he considers all of the major categories and items form which he need to choose. Experiment; pick and choose; create your own list. There is wisdom in working from a packing list. A day into a trip is late to learn that you forgot the fuel.

A CHALLENGE

I challenge you to:

- Go to wilderness in winter
- Be skilled
- Be prepared
- Use good judgment
- Enjoy one of the finest pleasures this plants and life can offer--the visual and sensual feast that is wilderness in winter!!!!

Items to Possibly Take on a Multi-Day Cross Country Ski Trip

Note: All of the following items will not be taken on any one trip. Pick and choose, depending on the trip. Always carry enough safety items, and know how to use them.

Carrying Equipment

pick
pockets for pack
sled
slid, cover
sled, straps
straps
truck or pack mule, to carry all of this

Clothing

belt
coat, down
coat, fiberpile or Quallofil
coat, shell
coat, thin
gaiters--thin, thick
glasses, fog cloth or liquid
glasses or goggles, multi-purpose
    or light color
glasses, cases
glasses, dark
glasses, elastic string
glasses, reading
hands--glove liner
hands--mittens--fiberpile,
    polypro, or wool
hands--shell, lined or unlined
head-balaclava--thin, medium,
    and/or thick

ground cloth,
plastic, small
light, large lithium
light, small lithium
light, spare bulbs
poles, cross country
    back country
repair, duct tape
repair, epoxy
repair, nylon rope
repair, posidrive
repair, sewing kit
repair, ski pole
repair kit
repair, spare
    baskets
repair, spare tip
X-country skis
repair, steel wool

head-face mask--neoprene or Gore-Tex
head--hat--pile, shell
head--hood, attachable to coat
long underwear, bottom (thick, thin)
long underwear, top (thick, thin)
pants or bib--Gore-Tex
pants or bib--insulating
(pile bunting, etc.)
pants--salopettes
shirt, turtleneck synthetic
shoes--X-ski, winter climbing, bunny boots
socks, inner
socks, thick--long, wool, polypro
suspenders
sweater
throat/face warmer
underwear
vapor barrier, bottom
vapor barrier, feet
vapor barrier, top
ribbon
vest--down, synthetic

Equipment

avalanche cord
survival, Labiosan
survival, lighter
survival, magnifying glass
survival, maps
survival, matches, windproof
survival, metal match
survival, money
survival, personal medicine
survival, signal mirror
survival, ski pole into probe adapter
survival, sun block
survival, survival cards
survival, vapor barrier bag (10 oz.)
survival, whistle
transceivers (1 for each person)
transceivers, spare batteries for
watch, tough one
wax, liquid
waxes, solid
repair, stretch cord
repair, survival tool
repair, tent pole sleeve
repair, toggle(s)
repair, wire
saw (can store inside shovel handle)
shovels (min. of 2)
skins
skis, X-country backcountry
straps to keep skis together
survival bag, complete
survival, Baggies
survival, compass
survival, cotton
survival, emergency blanket
survival, fire ribbon
survival, fishing line on pencil
survival, foil
survival, instruc. book(s)
survival, knife

Miscellaneous

binoculars
book, reading material
candle(s)
candle lantern
candle, reflector for lantern
deodorant
first aid kit
keys to vehicle and locks
lighters
medical, alcohol
medical, chafing cream

Food/Cooking/Eating Items

- baggies, small, large
- bottles, water (large mouth)
- can opener
- cook set
- cook set--(fire) lighter
- cook set--plastic scrub cloth
- cook set--salt and other seasoning
- cook set--stove instructions
- cook set--stove oil
- cook set--stove spare parts
- cups
- foil
- food
- garbage bags, mesh
- garbage bags, plastic
- knife
- paper towels
- plates
- spoons
- stove--fuel
- stove--fuel bottle(s)
- stove--MSR, primary
- stove--MSR, spare
- thermos, stainless
- vitamins
- toothpaste
- wind gauge

Photography

- batteries, spare
- battery warmer
- body, #1
- body, #2
- books, instruction
- brush
- cable release
- camera, small
- case for camera
- clamp
- film, Kodachrome 64
- film, other
- filter wrench
- filter, other
- filter, polarizer(s)
- filter, UV or Haze(s)
- flash
- flash, batteries for:
  - lens, 200
  - lens, 35-105
  - lens, 50 1.4

- medical, cough drops
- medical, dental floss
- medical, Labiosan
- medical, Noxzema
- medical, Pepto Bismol
- medical, personal medicines
- medical, Q tips
- medical, 2nd skin
- medical, sun block
- medical, tape
- medical, water purification tablets
- money--cash
- money--credit cards
- money--travelers checks
- paper
- pen/pencil
- shoe treatment
- soap
- straps, spare
- stuff sack(s), spare
- thermometer
- toilet paper
- toothbrush

    lens, 55 macro
    lens, other
    lens, other
meter, incident light
meter, reflected light
tissue for lens
tripod

Sleeping

ear plugs
ground cloth
pad--foam--thick medium, thin
pad-repair kit for Therm-a-Rest
pad-sack for
pad--Therm-a-Rest
pillow shell
sleeping bag
sleeping bag, Gore-Tex cover
sleeping bag, stuff sack (reg. or compression)
tent
tent pegs
vapor barrier liner

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ENVIRONMENTAL ACTIVISM, PUBLIC EDUCATION AND OUTDOOR PROGRAMMING: A UNION OF NECESSITY

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ABSTRACT:

This paper concerns efforts to facilitate participation in environmental issues by students at the University of California at Irvine (UCI). It starts from the rationale on which our efforts are based. Points made in this initial section are illustrated through reference to the University of California in general and UCI in particular. This also creates a context for understanding aspects of the programmatic approach we would like to take toward the achievement of increased student participation. A rough outline of this approach is provided in the third section. As a complement to this outline, we present some results of a survey gauging student support for a program such as we envision. The paper concludes with brief discussion of the issues raised in the course of our undertaking.

Introduction

The news hasn't been good. Changes in the atmosphere foreshadow more drought, more wildfires, more skin cancer; zone depletion and increasing concentrations of greenhouse gases attributed to heating, cooling, and transportation practices common throughout the world. Pollution in the oceans threatens myriad lifeforms, and in turn food sources of critical importance to millions of people worldwide; on our beaches, the presence of dying dolphins, along with medical syringes tells us that we are dealing with too much waste. The rapid degradation and loss of forest and agricultural land threatens biological diversity, critical food sources, the atmosphere, and points to the fact that there is much we are doing wrong and much that needs to be corrected. In the air, in the water, on the land, from the global to the most immediately local level, there is much evidence of antagonism between human activities and the environments in which they are carried out. A quote attributed to Raymond Dasmann captures the desperateness of the situation: "We are already fighting World War III, and I am sorry to say we are winning it. It is the war against the Earth."

This almost overwhelmingly bad news leads us to the primary reason for the action we are taking: many environmental problems, the result of many human activities, will require for resolution the cooperative participation of many people. Cooperative participation is required because of common involvement in the problems. The idea of non-involvement is a myth. Although non-awareness may be a fact, non-involvement is not. It is a fantasy, a most dangerous one, and one that cannot be perpetuated. Being alive means affecting the environment. Whether we take action on behalf of the environment or not, we ultimately affect the quality of the environment we leave behind. Never before has there been a time when it was so important that people act on behalf of the environment, make peace with the environment, so that its quality might not be diminished further.

Yet sheer numbers of environmental activists will not alone suffice. Without guidance,, much of their precious energy may go to waste, or worse yet, exacerbate other problems. Although the importance of an emotional basis for concern should not be underestimated, it is at least equally important that action be guided by a sound understanding of the problem and its context. Such an understanding is a product of education. Education is socially sanctioned because of an awareness that benefits will accrue to society from an educated citizenry. Further, public education is subsidized because of an expectation enhancement of the health of the environment. Given this, the primary reason for our approach to the problem should not appear like a radical proposition; the preparation of people for participation in environmental issues is an appropriate undertaking for our public educational institutions.

Education of the public is effected in numerous ways. Television and radio, newspapers and magazines, libraries and museums, hospitals and clinics, schools: each reaches people in different ways, in different contexts, and often at different points in their life cycles. We focus here on public universities primarily because of our involvement with one. Yet there are other good reasons to focus upon the role of public universities. First, detailed knowledge of many environmental problems, with respect to both probably causes and likely solutions, often comes from research that has drawn on the resources of public universities. These resources include the intellectual resource found in faculty and advanced students who conduct research, and the physical resource that consists of the laboratories, libraries, and instrumentation used in conducting research. Having access to these resources enables students to develop relatively advanced understandings of problems. Access may be formal, as through coursework, or directed study, or informal, by way of extracurricular activities. Second, universities are in a position to affect the values and critical thinking capabilities of people who are, for the most part, just starting to come to terms with the matter of their place in the world. The university experience may lead them to choose to act in ways that are environmentally responsible. For many, the university experience will be the last context in which the importance of such a choice is convincingly articulated.

University outdoor programs can offer extracurricular activities that work with academic offerings to make more cogent the case for environmentally responsible action. Actually, the development of such offerings helps the outdoor programmer fulfill his or her environmental responsibility. In an earlier paper (Bowler, 1984), it was argued that outdoor programmers should be directly involved in efforts to maintain, manage, and preserve the lands enjoyed by university communities, since their outdoor programs are significant users of those lands. Some of their involvement is more in keeping with their role as a representative of the outdoor program. Letters to public officials, testimony at public hearings, and reviews of environmental impact documentation are all ways in which the professional perspective of the programmer can be presented. More germane to the present discussion, however is the fact that outdoor programmers are in a position to both educate students and stimulate involvement on their part. They can encourage the formation of student groups concerned with environmental issues. They can help direct students to existing organizations, which would benefit from volunteered energies and perspectives. They can develop offerings that promote involvement in local environmental issues. In numerous ways, programmers can help students enhance what may be purely academic understandings of particular environmental problems. In so doing, they can promote environmentally sound behavior by making real the implications of actions that are either environmentally beneficial or environmentally destructive. Because of this capability, outdoor programs and other means to gaining non-academic experience are an important component of our approach.

In sum, then, our efforts started from the idea that one way to address the need for environmentally responsible people would be to engage students in some form of university-based program that would have both academic- and non-academic elements. Before outlining the program we have been trying to develop, we should first provide some background information on UCI and the University of California, both to highlight aspects of the proceeding rationale and to make certain aspects of the program more readily understandable.

Context

Education is the single largest budget item for spending from the State of California's General Fund. For the fiscal year 1987-88, a little over $4.7 billion of that money went to operating expenses for institutions of higher education (K. O'Brien, California Postsecondary Education Commission, personal communication, November 7, 1988). In the election of 1986, state voters approved a $400 million bond issue to finance construction and improvement of facilities at those institutions. On November 8th, another $600 million bond issue was approved for the same purpose.

The State of California subsidizes three major postsecondary educational institutions. Together, they serve approximately 1.8 million students. The California Community Colleges system has 106 campuses spread throughout the state. Each college offers associate degrees in a variety of fields, along with certificates linked to training for various vocations. Upon completion of their program, many community college students transfer to one of the other State institutions. One of these, California State University, has undergraduate education as its primary mission, although there are terminal Masters programs in various arts and sciences at each of the 19 campuses. The University of California, on the other hand, places relatively more emphasis on graduate education. This does not, however, detract from the importance of undergraduate instruction. Rather, it reflects the University's role as the State's primary research institution; graduate students provide much of the skilled labor needed to conduct research.

The University of California has three broad missions. Two, research and teaching, have already been identified. The third is public service (UCI General

Catalogue, 1988, p. 72). In fulfilling these responsibilities, the University draws on intellectual and other resources distributed through a system of nine campuses, numerous off-campus research facilities, and an array of natural reserves. In addition to resources at each of the campuses, members of the public can avail themselves of medical facilities, information services, and an Extension service that offers continuing education and various certificate programs (UCI General Catalogue, 1988, p. 4).

The University of California at Irvine has a set of academic goals that reflect the teaching, research, and public service missions of the University of California as a whole. These are stated in the UCI General Catalogue as follows:

> UCI offers programs designed to provide students with a foundation on which to continue developing their intellectual, aesthetic, and moral capacities. The programs and curricula are based on the belief that a student's collective University experience should provide understanding and insight which are the basis for an intellectual identity and lifelong learning.
>
> An important aspect of the educational approach at UCI is the emphasis placed on student involvement in independent study, research, and the creative process as a complement to classroom study. Independent research in laboratories, field study, involvement in writing workshops and participation in fine arts productions are normal elements of the UCI experience. In many departments special programs and courses which involve students in original research and creative activities are integrated into the curriculum.
>
> UCI provides an atmosphere conducive to creative work and scholarship at all levels, to the exploration of the accumulated knowledge of humanity, and to the development of new knowledge through basic and applied research. Along with these objectives, UCI has a serious commitment to public service. The campus generates research expertise which may be applied to regional and national social issues,and seeks to provide humanistic understanding of the problems of society (p. 6).

The importance attached to learning outside of the classroom is noteworthy.

The University of California at Irvine is one of the youngest campuses in the system. In keeping with its youth, UCI is growing very rapidly. Since its inception in 1965, the student population has expanded to 15,874 (M. Barney, November 7, 1988). Rapid growth has strained the campus infrastructure, leading to a rash of new construction. In these respects and others, conditions at UCI reflect those found in the larger community. Among students, "traditional" or "conservative" values appear to be dominant, and there is a strong inclination to measure success and well-being in material terms. These conditions also prevail in Orange County, known for its high level of affluence and its fervent support of the Republican Party. In terms of ethnic diversity the student population is similar to that of Orange and Los Angeles Counties, from which most students come. Note, however, that the percentages of Caucasians (50%) and Asians (30%) at UCI are disproportionately large, while those of Chicanos (7.3%) and Blacks (2.5%) are disproportionately small (the remaining 10.2% represent other ethnic groups or have not provided information on their ethnicity; statistics are from Bentley-Adler, 1988).

Most students commute, and experience daily some of the problems associated with rapid growth: traffic congestion off-campus, parking problems on campus. Slow-growth sentiments expressed on campus echo those of the larger community, which have been manifest in various city and county slow-growth ballot initiatives. There is a budding environmental awareness among students; they are concerned about toxic waste, air pollution, the loss of open space and wildlife habitat, and myriad other issues, many of which are associated with the underlying program of rapid growth. Despite their concerns, students tend to not get involved.

Three programs enable students who do want to get involved to channel energy into diverse public service areas, environmental and otherwise. These programs exemplify ways in which experiential learning outside of the classroom can be merged with public service activities. One, the Student Health Service (SHS) volunteer program, offers upper-division elective credit for volunteer work at the Student Health Center or in the community. Any student can participate. During the 1987-88 academic year, more than 335 undergraduates provided over 15,000 hours of volunteer work each quarter (B. Newcomb, November 28, 1988). Most students who participate in this program have an interest in entering a health care profession, and so give their time to organizations specifically concerned with health care delivery.

The Program in Social Ecology is a degree-grant academic unit concerned with the application of interdisciplinary scientific methods to the study of recurring social and environmental problems (UCI General Catalogue, 1988, p. 248). Research by faculty and graduate students is typically of an applied nature and conducted in the community. In keeping with this orientation, one of the most notable features of the undergraduate program is its field study component.

> Field Study is designed to provide students with an opportunity to examine social-environmental problems as they occur in community settings; to evaluate the merit of ideas presented in the classroom; and to conduct naturalistic observations and investigations at field sites. Under the supervision of a Social Ecology faculty sponsor, students are encouraged to evaluate procedures and problem-solving strategies used in the work place and to observe the links between community practices and academic ideas and issues (UCI General Catalogue, 1988, p. 250).

Students have secured field study placements, paid and unpaid, in many kinds of public and private settings. Among them are planning and design firms, law offices, nature interpretation centers, UC Natural Reserve System sites, pollution control agencies, day care centers, health care agencies, counseling services, police departments, and primary schools (UCI General Catalogue, 1988, pp. 250-251).

The Cooperative Outdoor Program (COP) includes an outing program, non-credit outdoor skill development courses, and various equipment services. The COP also sponsors student recreational and environmental groups, such as the Ski Club and the Friends of the San Joaquin Freshwater Marsh. Academic links between the COP, the School of Biological Sciences, and the Program in Social Ecology exist through credited Independent, Directed, and Field Studies. Also, the COP promotes such non-major lower division courses as Mountain, Coastal, and Desert Ecology, and helps support them through staff assistance. The COP supports an environmental education seminar series, and has helped bring to UCI such notable environmentalists as David Brower of the Sierra Club and David Foreman of Earth First! The COP has co-sponsored conferences and symposia on environmental issues such as habitat restoration. Student involvement in local environmental issues is encouraged by offerings such as guided field trips to areas slated for development, cleanup campaigns at local natural areas, habitat restoration efforts, and projects that involve transplantation of rare or endangered species out of areas that are to be developed.

In addition to the program described above, a program called The Human Corps has been instituted at a system-wide level in both the University of California and California State University. The Human Corps program has a specific goal: "to provide every student an ongoing opportunity throughout his or her college career to participate in a community service activity" (A. B. 1820, 27 September 1987, Section 99101). In enacting the legislation by which it was created, the State Assembly declared that it intended to do the following:

1. Complete the college experience by providing students an opportunity to develop themselves and their skills in real-world learning experiences.

2. To help nurture a sense of human community and social responsibility in our college students.

3. Invite the fullest possible cooperation between post- secondary education institutions, public, private, and nonprofit agencies, and philanthropies to plan,fund, and implement expanded opportunities for student participation in community life through public service in organized programs.

4. To substantially increase college student participation in community services by June 30, 1993, with the ultimate goal of 100% participation (A. B. 1820, 27 September 1987, Section 99100).

The legislature based their action on a rationale that cited unaddressed social needs and environmental problems, the need for creative and cost-effective solutions to those problems, and the public service mission of the State's postsecondary educational institutions. Also cited was the mutual benefit gained by recipients of services and the students who provide them (A. B. 1820, 27 September 1987, Section 99100).

In this section we have tried to show that ideas presented as a rationale for our approach have, to an extent, already been implemented on a system wide basis and at the Irvine campus. In so illustrating our rationale, we have also indicated strengths and limitations of some existing public service programs. Further, we have pointed out characteristics of UCI and its students that are significant with respect to the approach we envision.

Approach

From our perspective, one of the most significant characteristics of UCI students is their tendency toward non-involvement. When first looking at ways to increase student participation in environmental issues, one question asked was, "Why aren't they already involved?" In trying to answer, consideration was given to their values, their political views, and to the possibility that they are not concerned. None of these stood alone as an explanation. The best answer seemed to be that they feel they are too busy. With demanding courses and 10-week quarters in which to complete them, students work at a fevered pace just to stay "caught up." Giving time to work on environmental problems might mean sacrificing time needed for studies. We understand this concern. Plainly, students choosing to become more involved might be penalized in terms of progress toward other goals. We saw that a program intended to increase student involvement should also help them move toward their academic goals. For this reason, course credit would be a basic element of the program as we see it.

Existing programs with experiential learning-public service orientations also offer academic credit; however, there are formula and de facto restrictions on participation and the kind of credit that can be earned. Because the Student Health Service program promotes volunteer placements in settings oriented toward health care delivery,, it appeals most directly to students preparing for some health care profession. So, although it has an open participation policy, it tends to attract students from a narrow range of majors.

The Cooperative Outdoor Program sponsors student efforts in a relatively small-scale, informal way. Unlike the Student Health Service program, it does not have a coordinator to link interested students with volunteer opportunities. Rather, in coordination with a small group of faculty spread across a few academic units, it tries to support projects proposed by interested students. Both the Student Health Service program and the Cooperative Outdoor Program provide for a type of academic credit that is restricted in terms of the extent to which it can be applied to the upper-division requirements of any given major. In contrast, credit earned through participation in Social Ecology's Field Study Program applies directly to the fulfillment of such requirements. However, only Social Ecology majors are allowed to participate.

Because of normal and de facto restrictions on participation and the kind of academic credit that can be earned, the existing programs are limited in the extent to which they can encourage student involvement. The approach we advocate would combine aspects of the above programs in order to negate these restrictions. To start with, the program should be open to all students, but offered through the individual academic units. (Although some units may feel the program would not be in keeping with the content of their more academic offerings, such a feeling merely belies an unexercised imagination. For example, drama students might welcome the opportunity to engage in street theatre with an environmental message.) In addition, the credit offered should be equivalent in kind and amount to that offered for participation in a formal upper-division course requiring similar effort. These arrangements would facilitate the direct application of credit earned to requirements associated with the given major. This would, in turn, encourage involvement by making more clear the connection between service activity and academic progress.

Little would be clear without dissemination of information. To make known the opportunity offered by the program, it should be "advertised" in the campus General Catalogue. A description of the program should be provided, along with details on what the student must do in order to take advantage of the opportunity. This information, or at least some subset of it, should be included among the information on the individual academic units, their degree requirements, and their course offerings. Literature put out by the various academic units should also include mention of the program.

To make possible the connection between service activity and academic progress, students would be responsible for doing three things. First, they must consider their degree requirements, their present standing with respect to the fulfillment of those requirements, and the way in which their participation in the program would help them fulfill remaining requirements. In effect, they must assess the fit between participation in the program and other scholastic demands. Participation should lead to progress, not to a setback. Second, students must develop an action plan consisting of a brief description of the problem and the activity to be engaged in. In describing the activity, they should indicate the amount of time they intend to give to work on the problem and the activity to be engaged in, and the amount of academic credit desired. They should also indicate whether they intend to work independently or with an established organization. Finally, students must find a faculty sponsor affiliated with the academic unit offering their major. The sponsor's affiliation is important with regard to ease of application of credits earned to requirements of the student's major. Location of a sponsor can happen in several ways. They can approach faculty persons they are already working with or familiar with. They can get references from other people. Or they can seek the services of some form of clearinghouse, where they can find listings of faculty and related interests. Such a clearinghouse might also provide information on different environmental groups for those students who want to work with an organization but have not yet arranged for a placement.

This clearinghouse function might best be served through the university outdoor program. Many students who avail themselves of the outdoor program's recreational offerings may be people who have concerns about various environmental problems. For these people, the outdoor program can then offer something to satisfy a more serious side of environmental appreciation. Further, by assuming a clearinghouse function, the outdoor program may realize an increase in its clientele. Students who go to the outdoor program for information ont he environmental program may learn about other services and offerings available through the outdoor program. In short, by participating this way, the outdoor program can both expand and strengthen its position as a center for environmental resources in the campus community. It need not come at any great expense, either. Student environmental organizations sponsored by the outdoor program could contribute labor needed to maintain listings of environmental organizations in need of help and of faculty willing to work with students in the context of the program.

The university outdoor program can provide support in other ways also. It can promote the environmental program in its literature. It can advertise outings led by people who, participating in the program, want to bring others to a particular place to inform them about a particular issue. Again, such support need not be costly, but has great potential for being mutually beneficial.

Having said much about what the program should involve, we should provide some balance by mentioning what it should not. It should not have a purely academic focus. Although the academic component should not be neglected, the emphasis should be on the work conducted outside of the academic structure. Just as the form of activity would be worked out with the sponsor at the outset, so should the academic component. This should involve a reading list and some means of reporting on the activity. The reading list could consist of materials germane to the specific problem, along with selections form a universal syllabus developed for use by all students participating in the program. Possible means of reporting are term papers, oral reports, and visual presentations such as slide shows or videos. Again, though, whatever is agreed upon with respect to reading and reporting should be subordinate to the activity component. The academic component should center on the development of an understanding of the problem at hand, so that the activity is not without guidance. The emphasis should be on experiential learning, on the student being out of the classroom and in the community, getting hands-on experience addressing the problem.

Neither should the program be viewed by faculty as a source of labor for their own research efforts. Participation in the program can nonetheless be very rewarding for faculty. The program provides a context in which faculty can provide guidance to students who come to them in hopes of working on an issue of mutual concern. Acting in a mentoring capacity, with work centered on a subject of shared interest, can be far more satisfying than other teaching experiences. It can also be far more satisfying for students, who may have never had the opportunity to work so closely with a faculty person. So through contribution of a small amount of time, faculty can have a rewarding teaching experience and gain an added sense of involvement in an issue of concern.

Finally, the program should not be a source of labor for organizations motivated by other than the interests of the public and the environment. If a student wishes to work with an organization within the context of the program, their choice should be subject to review by the sponsoring faculty person. The program should lead to mutually beneficial relationships. It cannot be allowed to enable exploitive ones.

In this section, we have tried to outline some of the key aspects of the program as we see it. Attention has been given to fundamental elements of curricular structure, to promotional strategies, to the responsibilities of students, and to the role of the university outdoor program. We have also tried to anticipate some problems. The discussion has been in very general terms, and reflects a need for flexibility in the initial stages of implementation. The ideas presented form a conceptual foundation for our efforts.

Support

To date, much of our effort has been directed toward an assessment of student interest in and faculty support for a program such as the one outlined above. To make this assessment, we conducted separate surveys of students and faculty.

The survey of students was limited to undergraduates. Some 694 took part, or roughly 6% of undergraduates enrolled at the time. Because of various logistical constraints, the sample surveyed was one of convenience; however, an effort was made to achieve proportional representation from all major academic units. Academic unit membership was the compositional variable of greatest interest to us, as we thought there might be statistically significant differences across academic units with respect to support for the program. Such differences would have important practical implications.

Our methods were simple. We first targeted large introductory courses offered through various academic units. We then contacted the faculty responsible for those courses in order to make arrangements for administering the survey. For various reasons, some faculty did not want the survey administered in their classes. After making the necessary arrangements with those who were amenable, we went to the classes and administered the surveys. Completion of the survey required about five minutes.

As a quick examination of Table 1 would suggest, we were not entirely successful in achieving proportional representation (chi square = 712.3697 at 9 df, $p < .000001$). Because the sample does not accurately represent the composition of the undergraduate population with respect to academic unit membership, we cannot draw conclusions about differences across academic units.

	Sample		Population	
	n	%	n	%
School of Physical Sciences	57	08.2	903	07.7
School of Engineering	184	26.45	865	07.4
Information & Computer Sciences	31	04.4	642	05.5
School of Fine Arts	7	01.0	568	04.9
Office of Teacher Education	1	00.1	292	02.5
School of Social Sciences	123	17.6	2687	23.1
Program in Social Ecology	163	23.4	891	07.6
School of Biological Sciences	72	10.5	2871	24.6
School of Humanities	15	02.3	1061	09.1
Unaffiliated	41	06.0	873	07.5

Table 1: Distribution of undergraduate students by academic unit. Population figures were provided by the Office of Analytical Studies are based on enrollment data for Spring Quarter, 1988 (M. Barney, November 28, 1988).
Percentages have been rounded.

This is not to say that the survey did not provide useful information. To the contrary, the data offer a measure of support for a program such as we envision. Consider the responses to the following questions (note that percentages are rounded):

1. Are there any environmental issues that you are presently concerned about?

Yes	468	(67.4%)
No	212	(30.5%)

2. Are you presently involved in efforts to resolve any environmental issue?

Yes	71	(10.2%)
No	611	(88.0%)

3. Would you take advantage of an opportunity to earn course credit for your efforts toward the resolution of some environmental issue?

Yes	456	(65.7%)
No	186	(26.8%)

4. Do you anticipate becoming involved with any environmental issues in your community after leaving the university?

Yes	318	(45.8%)
No	237	(34.1%)

5. How well prepared are you to participate in issues of concern in your community?

	n	% of total sample
Very well prepared	15	02.2
Well prepared	59	08.5
Somewhat prepared	231	33.3
Not well prepared	193	27.8
Very prepared	56	08.1
Wouldn't participate	33	04.7

6. Do you think preparation for participation in such issues should be part of a university education?

Yes	447	(64.4%)
No	121	(17.4%)

Again some qualification is needed. Note that the response rate for all the above questions was less than 100%, ranging from 80% to 98.3% of the total sample. Non-response poses problems in that it can deny an accurate understanding of the people sampled. For example, 15.4% of our sample did not respond to question 5. Because of this, we cannot be certain whether 40.6% or 56% or some percentage in between of students surveyed are unable or unwilling to participate effectively in environmental issues. It is potentially the difference between a minority and a majority.

Nonetheless, the obtained pattern of results offers some support for aspects of both the program in question and the thinking upon which it is based. Clearly, the majority of students in our sample concerns about the state of the environment. Equally apparent, most of these students are not presently acting on their concerns. This may well be attributed to the feeling of being too busy with school, as suggested earlier. Some indirect support for this idea comes from the finding that roughly 48% of those who are not currently working on a particular issue expressed that they were concerned about an issue and would take advantage of an opportunity to earn course credit for such work. Beyond that, it is significant that nearly two-thirds of those in the sample would take advantage of an opportunity to earn academic credit for environmental work. This finding constitutes support for the idea of increasing student involvement in issues by creating a bridge between involvement and academic progress. This, in turn, is supportive of one of the central aspects of the program described above.

Responses to questions regarding future participation in community issues present a somewhat more cloudy picture. Students in our sample were somewhat equivocal about expectations of participation. This may indicate that some do not have a clear picture of what role in a community they will have, or that they have not learned to see themselves as members of a community. It may also be a manifestation of a lack of preparedness; of those who do not anticipate becoming involved with environmental issues, some 51% expressed being either not well prepared or very unprepared for participation. Interestingly, however, there was less equivocation with respect to preparation for participation as part of a university education. It is cause for optimism that over 64% of students responding thought a university education should include preparation for participation in community issues. Further, only 13% expressed that they did not anticipate becoming involved and that preparation for involvement should not be part of a university education.

Despite problems with representatives and non-response, the student survey has yielded information supportive of a program that would grant academic credit for work on environmental issues. Further, the results suggest that students support the idea that undergraduate education should help students prepare for active participation in environmental and community issues.

Unlike the student survey, it was intended that the survey of faculty would encompass the entire population. We wanted to be able to make a strong statement about faculty support for the proposed program. Our method of approach was again simple. Questionnaires were sent through campus mail to all UCI faculty. That the response rate was less than 10% may well be due to poor timing. By error, the questionnaires were distributed earlier than planned. They were sent out the first week of the Fall quarter, when most faculty are coming to terms with their courseload. Because the response rate was so low, we will not present any results from the survey here. Our efforts in conducting the survey were not, however, entirely wasted. We were able to develop a listing of 45 faculty willing to work with individual students or small groups of students on issues of mutual concern. Along with their names, they provided information on issues they are concerned about, with the understanding that it would all be entered on a list to be made available to students. This is a first step toward linking students with faculty, and thus toward implementing the proposed program, if only on an informal basis.

Issues

The proposed program will probably not be implemented on a formal basis without some review by elements of the UCI administration. Basic elements of the program will come under consideration. Matters of resources and curriculum development will need to be addressed in greater detail. Although problems will arise that have not been anticipated, we have been able to identify some of the more fundamental issues. We give brief consideration here to two of them.

The idea of offering course credit to increase involvement has sparked some discussion. Some view it as a modified form of bribery. Rather than try to deny this contention, we would emphasize that it can often be difficult to get students involved...and keep them involved. Aside from trying to reduce penalties that involvement may impose on the academic progress, we are coming to grips with apathy, a force not unlike gravity in its ability to pull things to the ground. Students not previously involved may not be aware of the intrinsic rewards to be gained from participation, and so may be less motivated to become involved. Students attracted to the program by the credit opportunity may come to appreciate the intrinsic rewards, and so be motivated to maintain their involvement over the long term.

A related issue concerns the matter of "having to choose" between academic and activism. Although we understand students' concerns about not having time, we are sympathetic only to a point. Individual achievement has a context that cannot be neglected without some cost being incurred. A t-shirt cartoon seen in passing makes the point succinctly: "Nuclear war! There goes my career!" Our hope is that students become aware of the need for congruence between the attainment of personal goals and the fulfillment of social and environmental responsibilities. That many are not so aware provides sad commentary on our systems of education. That many will remain unaware is unlikely, given attitudes such as the one reflected in the opening quotation, a comment written in on one of the faculty questionnaires.

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TECHNICAL TREE CLIMBING

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ABSTRACT:

Tree climbing is no longer limited to children and professional tree surgeons. A sport has evolved from the trade that opens a whole new field of unexplored regions--the forest canopy.

Introduction

Climbing trees for fun is nothing new to most of us. Tree climbing adventures are a source of fond childhood memories. But the impressive trees we climbed as children seem small when revisited in our adult years. They can no longer provide us with the challenges and sensation of height that we sought as youngsters. To recapture that soaring experience, adults have to look for larger trees. However, one does not have to be a professional lumberjack or tree surgeon to reach the top of a giant tree.

Using standard procedures practiced in tree surgery or rock and mountain climbing, almost any tree can be climbed. Leg spikes, like those used by pole climbers, are not used because of the injury they inflict on the tree being climbed. The equipment needed to climb most trees can be purchased for under $300. This professional quality equipment will provide many years of service if properly cared for.

Why Climb Trees

Adventure plays an important part in a person's life. Without it, life can become dull. Adventure not only breaks the monotony of everyday routine, but it also serves to stimulate and challenge the person involved. Trees can provide that source of adventure just like they once did when you were a kid.

Have you ever wanted to get away from it all but you didn't have the time or money for a long trip? Have you ever wanted to disappear and watch the world go by? The solution could be as close as your own yard. Those big trees that you see every day could be a source of adventure beyond your imagination. But adventure is only one aspect of tree climbing.

Climbing trees is a vigorous exercise for the upper part of the body. The hands, forearms, chest, back, and neck muscles receive a potent workout. But the area receiving the greatest use is in the stomach. It's like doing sit ups many times over but without the boredom of repetition. It's a great way to tone up a flabby stomach while enjoying an exhilarating adventure. Rope climbing can also be an interesting addition to a fitness program.

Many sports, like running and cycling, develop the lower part of the body. Weight lifting, exercise machines, or calisthenics must then be employed to fill in the gap and round out the program. Rope climbing can serve admirably to complete an athlete's fitness routine. There remains one more aspect that benefits the rope climber- mental improvement.

Tree climbing is similar to the martial arts. It involves intense concentration. Natural fears, like the fear of heights and unfamiliar places, must be confronted and overcome. Balance and coordination are improved while exploring the tree tops. You also gain relief from stress through exercise and a unique environment. Self confidence is boosted as one acquires experience in the high tree canopy.

How Safe Is It?

Tree climbing is safer than riding a bicycle down the street. Climbing is performed while suspended from a rope. As long as the rope is looped over a sturdy branch and the knots are tied correctly, it would be almost impossible to fall. But if a climber decided to untie his knots and jump, loop his rope over a weak or dead branch, or cut his rope, the possibility for danger would be apparent.

Who Can Climb Trees?

Almost anyone can climb trees. Exceptional strength is not needed. Lighter people will have an easier time of it than those that are overweight. The overweight will have to work harder but it can be an entertaining way to loose extra poundage. Even the handicapped can climb. Two strong arms are all that's needed. Those that have had previous back or other major injuries should consult with their physician first before climbing.

Difficulty Rating of Climbs

The TCI classification system is modeled after the Sierra Club system of classes used in rock climbing. There is always a gray area when describing a climb by a number system. A Class 5 climb can be easy to an exceptionally talented climber.

Likewise, a Class 3 climb can quickly turn to a Class 5 difficulty on a wet, windy day. A classification system can only be used as a point of reference.

CLASS 1- Easy. Ladder type climb. Rope not often necessary or desired. Hand and foot holds easily within reach. Tree heights are low, 10-25 feet.

CLASS 2- Moderately Easy. Ladder type climb. Hand and foot holds are easily within reach. Because of height, a safety rope is recommended. Tree heights are moderate, 25-50 feet.

CLASS 3- Difficult. Roped climbing. A rope must be used to hoist the climber up to the first foot and hand holds. Distances between rope settings are short but often out of arms reach. Tree heights are moderate, 25-75 feet.

CLASS 4- Moderately Difficult. Roped climbing. A throw ball must be used for the first rope setting. Distances between rope settings is greatly increased. Tree heights are moderate to high, 50-125 feet.

CLASS 5- Very Difficult. Roped climbing. Throw ball must be used for multiple rope settings. This class can present many special climbing problems: leaning trees, a sparse high branch system, multiple climbing rope systems, and tree-to-tree traverses. Tree heights are high to very high, 75-200.

CLASS 6- Extremely Difficult. Special rope climbing methods. First branch out or throw ball range (75 feet or more). Lines are placed with bow and arrow, crossbow, or line guns like those used by sailors. Single rope climbing is performed with the aid of mechanical ascenders like those used in mountaineering and caving (Jumars, Gibbs). Tree heights are very high, 150-370 feet.

Classifications can not always be relevant to a particular climb. Slippery conditions caused by rain or ice, high winds, extreme heat or cold, or the climber's current physical and mental condition can affect a difficulty rating.

Tree Climbing--In a Nutshell

Climbing trees does not require a great deal of equipment. However, several pieces of equipment will be used regularly. Other small additions to your gear will appear as you attain experience, experiment with new techniques, or become inventive as you develop your own unique climbing style. Some climbers will carry a large assortment of tools while others will elect to carry the barest minimum. Much will depend on what a climber feels most comfortable with and their personal climbing style.

A rope must first be looped over a branch before climbing can start. If the first branch starts fairly high, a throw ball with attached line must be used. The ball, a pear shaped padded weight or a sand bag, is used and a light weight line is attached. After the throw ball is draped over a branch, the climbing rope is tied on and pulled over.

Now you buckle on the harness, a tree surgeons saddle or padded legstrap saddle, and step up to the ropes that are now dangling in the air. A figure eight loop is then tied and snapped into the saddle with a locking carabiner. The remaining two feet of rope is tied to the other rope using a magnus or taut-line hitch. The magnus hitch bears a close resemblance to a prusik knot and works in the same way. But before you leave the ground, two other pieces of equipment must be carried along.

The daisy rope is a type of safety line that doubles as a climbing rope for traveling short distances, like between branches. It's made out of the same rope used for climbing and measures twenty feet long. Two carabiners are attached at both ends with a third carabiner used for fine adjustments. To keep the daisy rope from getting tangled while not in use, it is stuffed into a canvas riggers bag that hangs from the belt behind the climber.

To climb, you pull down on one end of the rope and slide the knot up, usually in one to two foot increments. Let go of the knot and it automatically locks-holding you in place. This process is repeated until the branch the rope is looped over, the anchor point, is reached.

Now several options are available to climb to the next branch. First, you can switch over to the daisy rope and free up the long climbing rope to loop over the next branch. If the next branch is just out of reach, you might use the daisy rope to pull yourself up while still remaining attached to the climbing rope. For longer distances between branches, the throw ball can be used again. The technique will depend on the situation. The main point is to always be attached, by rope, to the tree while climbing.

Descending is easy. You grasp the magnus hitch knot and gently pull down. The speed of descent increases the harder you pull down. When you let go of the knot, you automatically stop--a total self-belay system.

Of course much more is involved in climbing trees. There's branch walking, night climbs, over night bivouacs, tree-to-tree traverses, and a host of other fascinating aspects too numerous to mention. The description you just read was merely an overview.

Tree Climbing vs. Rock Climbing

Technique Differences

Equipment designed for rock climbing and caving does not fill the needs of the tree climbing enthusiast for one important reason--the feet. The major difference between caving and rock climbing as opposed to tree climbing lies in the use of the feet. A rock climber uses the feet directly for upward movement, like foot jams, friction smearing, and edging. While climbing suspended by ropes, as in aid climbing, the rock climber and caver will make use of their feet to help propel themselves upward by using some type of foot stirrup. The stirrups might be used with mechanical ascenders, or appear in other forms, like etriers, prusik systems, Jumar systems, or rope walking systems. The climber will step into these loops to progress upwards.

A tree climber uses an entirely different method for upward movement, a direct hoisting system, that makes little or no use of the feet, at least as long as the climber is in a suspended position. For this reason, equipment designed for sports other than tree climbing is not appropriate for comfortable tree travel.

Equipment Differences

The rope is the main tool for gaining height in a tree. The climber's rope is used directly for hoisting a climber up. Tree climbing utilizes a moving rope system. What do we mean by a moving rope system? As a climber moves upward, the rope is moving over a surface, usually a branch. The rope is fully loaded with a climbers weight. The rope also moves over the supporting surface, or anchor point, while the climber descends.

With rock climbing, the rope is used differently. The rock climber uses the rope primarily as a safety back up measure in the event of a fall. Though a rock climber's rope moves as a belayer pays out rope, the fact remains that the rope is free of the climbers weight, as long as a fall doesn't occur. Some rock climbing methods do use the rope more directly, like in aid climbing with mechanical ascenders, but the rope does not become a fully direct hoisting system nor does it move, as it does in tree climbing.

In tree climbing, descents generate high heat. A kermantle rope's sheath wouldn't last one climb without significant damage to the outer sheath. Because the rope is used differently, special ropes designed specifically for tree climbing are used.

Polyester blend ropes were designed specifically for tree climbing and they cannot be surpassed in performance. These synthetic ropes are often combined with other synthetic materials like polypropylene, nylon, and polyolefin. Polyester materials are used for the outside sheath. They can withstand high heat levels. The inner core contains the stronger materials, like nylon and polypropylene. The ropes are exceptionally strong, limber for accepting a knot with tight wraps, and have an acceptable level of stretch.

Besides the climbing rope, the harness, or saddle, will be the other major difference between rock and tree climbers. A good tree surgeon's buttstrap saddle or padded legstrap saddle is mandatory, because a climber will spend a large amount of time suspended in midair. Tree climbing would be more of a chore than a joy, not to mention more hazardous to one's family health, if a climber was not comfortable while suspended from the tree tops. Rock climbing harnesses are not designed for prolonged periods of cheerful suspension.

Psychological Differences

You'll find tree climbing a middle-level climbing experience. What do we mean by a medium level climbing experience? The brain seems to accept different climbing situations with varying degrees of fear and apprehension. The degree of danger does not always correlate to the climb.

Let's take a low-level climbing experience--stair climbing. Climbing a long flight of stairs is exhausting and boring. The brain can be lulled into a listless state, regardless of the inherent danger. A fall on a flight of stairs usually ends in a serious injury, even death.

Rock climbing provides a high-level climbing experience. Nothing boring about this type of climb. To a novice, it could be an unparalleled adventure rife with fear, uncertainty, and intensity. The climber might only stand a few inches above the ground groping for an unseen finger hold while bouldering or climbing a short practice pitch while being protected by a top rope belay. Even though the danger level is low, the brain sends messages requiring massive doses of adrenaline. A ropes course, with its top belay points, falls into this category also.

Tree climbing furnishes a middle-level climbing experience. The climber is ascending while suspended from a rope. A climber doesn't feel like they are going to slip and fall off. The climb usually follows a pattern of four or five pulls upward followed by a brief rest period. Because the climbing method is a self-belayed system, the climber can release their hold on the knot at any time and not worry about falling. This is not to say that tree climbing lacks a certain amount of fear of challenge. Climbing suspended fifty feet up with nothing but air below you can fill the heart with apprehension. After you reach the first branch, you'll need to figure out how to place your rope over the next branch. This is where climbing strategy and challenge begins.

Different Climbing Mediums

The world is full of things to climb. Whatever reaches beyond a persons head, you can bet it has been climbed or seriously considered by some adventurous soul. Rock and mountain climbing currently draws the majority of climbers. Bouldering provides climbers with low height challenges, many of which are extremely difficult. Caving now attracts many new climbers. Ice climbing, a specialized medium, beckons those seeking something different.

If you live in the city, there's plenty of climbing mediums. You might find climbers practicing on stone walls or the sides of buildings. If that's not enough, city dwellers might take on a building or even a sky scraper--buildering. Other man-made objects that attract city climbers include radio towers, flag poles, water tanks, and wooden poles.

Let's not forget those fabulous artificial climbing surfaces many climbers are practicing and competing on these days.

Of all the climbing mediums, only one remains that can be viewed as the starting point of most climbers--trees. Trees are the roots of most climbers. Possibly it has something to do with man's past heritage when our species dwelled and foraged in the tree tops. Certainly the ready availability of trees adds to the popularity of this climbing medium. Ask almost any kid about tree climbing and you'll get a knowledgeable response. Ask any top rock climber about their childhood climbs and trees will no doubt play into the conversation. Trees are the roots of most climbers.

Twenty-Three Reasons To Consider Technical Tree Climbing

Safety

The most important category of reasons deals with safety. One of the most important concerns of an outdoor program pertains to the subject of liability. If an activity carries a high accident potential, it could put the program in a position where insurance could be unattainable. It's already difficult finding coverage. This is not to mention the heavy expense of insurance coverage.

Currently, insurance companies know little about technical tree climbing. To them, it's viewed as an equal with other climbing sports.

However, comparatively speaking, tree climbing does offer a number of safety advantages over other climbing mediums. The techniques and safety measures are derived from the age old trade of tree surgery. A tree surgeon must daily rely on safe climbing procedures to remain in business. A professional tree climber also knows it takes only one mistake to be cast out of business, if not life itself.

1. Tree climbing makes use of a self-belay system. A belay is the procedure where another person pays out or takes in rope as a climber ascends or descends. The belayer, who is firmly anchored (tied in), prevents the climbing partner from falling by holding on tight in the event of an accident. With a self-belay system, the climber provides themselves with a back-up in case of an accident. All they have to do is let go of the knot and it automatically locks down, stopping the climber. A second person is not needed. A self-belay system not only saves manpower but increases safety. Belayers have been known to succumb to inattentiveness and even sleep during long climbs.

2. A climber ascends from a suspended position. The likelihood of falling while suspended from a rope is slim. We are not talking about cutting your rope or breaking the branch you're climbing from.

3. Constant supervision, like using a top belay, is not needed with a self-belay system. The climber can stop and rest at their own speed, whenever they like. They need only release the knot from their grip. Both hands are then free to do what ever they like. Not only does this increase the safety margin, but it adds much to a novice climber's feeling of self-control. A sure boost for self-esteem.

4. Trees provide abundant anchor points. It's easy to find an anchor point, usually a crotch, to loop the climbing rope over. If an anchor point is not available, one can be easily made with a short piece of rope and a carabiner or rescue pulley. They're called "false crotches."

5. Trees furnish high visibility to anchor points, hand, and foot holds. You won't need to search for hand or foot holds. The branches may be positioned many feet from you, but you can plainly see them. Judging their strength is usually a simple process of observation.

6. Sharp edges are usually nonexistent in trees. Tree shapes are based on the cylinder form--most everything is round excepting the leaves. You won't need to worry about your rope being cut from edge abrasion.

7. Climbers can make a quick, safe retreat if necessary--like if a sudden storm approaches. Descents are made from the same self-belay system. If the climber releases their knot, they automatically stop. Rappelling techniques are not used. Each climber supervises their own escape using their own personal rope.

8. A rescue is easy to perform if needed. Multiple anchoring choices added to false crotch placements make lowering a victim a simple matter. Unless you're scaling redwoods, the trees you'll be climbing won't grow much over a hundred feet. An experienced climber can scale this distance in a matter of minutes. You can add to your safety margin by leaving a high climbing rope unused, just in case a climber is suddenly needed aloft.

Most of the rescues involve a stalled climber. The climber usually either freezes from excessive fear, or more commonly, the knot jams making descents difficult for the nervous novice. The rescue involves a simple climb to the stalled climber. The climber needs only to grab the stalled climbers knot and their own and pull both knots down simultaneously--a tandem rescue.

Convenience

9. Trees are readily available--they grow almost everywhere. You don't have to travel far to find a tree worthy of a climb. No doubt this is a primary reason why most of us have climbed as children.

10. Short approaches free up more time for climbing. No need to lug heavy packs and rations to reach a worthy climbing tree. This is not the case, however, if you're on a climbing expedition deep inside a remote virgin forest stand.

11. Every tree climbs different. Sometimes you'll need to slug it out with a big tree to get to the top. Other trees you might dash up without missing a breath. If you feel like a tough climb, you can tackle a hefty big tree with branches growing in difficult locations for rope placement. Possibly a more romantic setting appeals to you. You could climb a less imposing tree near water--like over running stream or by a lake. Trees don't need to be giants to provide adventure.

12. It doesn't take long to set up a rope and start climbing. If it's a tree you regularly climb, thin inexpensive lines can be left in place for later speedy rope placements (fixed lines).

Trees as a Climbing Medium

13. Trees are a moving medium. Breezy days convert a solid climbing object to a vibrantly swaying, rocking, limber being. Wind storms change the situation further to a thrashing, whipping ride.

14. Trees are a vocal medium. Wind passes through our throats to produce sounds. Wind passage through trees creates sound too. A gentle breeze forms a soothing sigh or hiss. A steady wind makes a tree stand proud as it energetically flaps its leaves or whistles with its branches. Wind storms stimulate howling and screaming as a tree fights for its life, battling against potentially damaging winds. Branches break and trees topple due to wind.

15. Trees offer a climate compatibility. In the summer, they shade you with their cool leaves. Winters they drop their cloak and let you climb in a warming sun--if you're climbing a deciduous tree.

The Climb

16. Multiple climbing routes are available on the same tree. You won't have to wait for someone to clear off your route before you start your climb. Just choose a different route or climb another side of the tree.

17. A group can jointly share in the climbing experience by climbing together. This is accomplished by making use of the multiple routes and sides of a tree. The group can meet near the top for a canopy party, complete with snacks and refreshments. Much will depend on the tree's size and branch structure.

18. Tree registers furnish a visible goal. The registers are usually hung from the highest climbing points, called summit points or summit branches. Often climbers will leave small pieces of candy or write unusual messages for following climbers to enjoy. Climbers also leave their name and address. This provides a chance for climbers to find climbing partners and furnishes a source of conversation from shared interests.

The most common storage register used is a rodent proof steel box hung from light steel cables. Special water proof paper is used to prevent condensation from ruining the paper.

Like rock and mountain climbs, each tree is awarded a name. The name is christened by the first climber to gain its summit point or by popular consent of the climbing party.

19. Higher levels of challenge exist for experienced climbers. A climber can further advance their skills by learning to venture out away from the trunk--branch walking. Branch walking is performed with the protection of a high climbing rope. If that's not enough, one can try tree-to-tree traverses. Traverses are tricky maneuvers, often requiring team efforts.

20. You can safely climb during night time hours. The trick is to leave inexpensive fixed lines hanging so ropes can be safely pulled up during the dark hours. Night climbs should be restricted to intermediate climbers familiar with basic climbing techniques. What a menagerie of sounds, smells, and sensations await the canopy climber during the warm summer months! Fireflies

will transform your tree to a shimmering spectacle of lights.

21. Overnight camping, called a bivouac, is easily accomplished in a tree. Special hammocks, called "Treeboats", are used for safe, comfortable sleep. This hammock is equipped with four suspension points, one at each corner, to create a secure, rounded hull-like support. It's almost impossible to roll out. Additional accessories for this bivouac system include an insulating pad to protect against radiant heat loss. A mosquito net is also available. You can even get a light weight fiberglass-ribbed tent to go over the hammock!

During an overnight bivouac, the sounds, stars, and smells can create a near mystical experience. It's an overnight few ever forget.

Economy

22. Economic use of time accompanies a tree climbing program. Ready availability of trees linked with a short approach and quick set up prior to climbing helps save time. More time is free for the experience--the climb itself.

23. Climbing gear is almost a one-time purchase. Your gear will last many long years if you purchase top quality equipment designed for industry use and you properly care for it.

Ropes take the most wear and abuse. The most common factors that retire tree ropes are severe heat loads produced from descents taken too rapidly (rope melt downs) or cuts inflicted by hand or chain saws.

Sudden shock loads, like a leader fall, won't present a problem to rope life. A tree climber ascends while in suspension. The shearing force of an edge abrasion will also be absent.

Selecting A Suitable Climbing Tree

Not every tree is suitable for climbing. You've got to take a careful look at a tree before buckling on your saddle. The most important consideration is, of course, your own personal safety. Could you get hurt, or worse, killed in the tree you intend to climb? How about you climbing buddies? You certainly wouldn't want some of your climbing party injured.

"Wild" trees require climbers to cross over into the field of tree surgery to make a judgement of a tree's safety. A "wild" tree is a tree that has not been previously climbed. They are usually littered with dead branches that might break off, possibly to fall on climbers and people on the ground. Small shoots, called suckers, usually grow from trunks and large branches. Though suckers present no danger, they make passage through the tree irritating and frustrating. Both dead branches and suckers must be pruned by the lead climber, the first climber up, before the rest of the party ascends. Not only does pruning promote safety, it adds immensely to the health of a tree. After the first initial cleaning, keeping a tree "tame" is a simple process of spot pruning, requiring time and effort.

A lead climber must make other inspections before giving the tree a passing mark. An inspection of the ground around the trunk for soil cracks will indicate an unstable root foundation--especially on leaning trees. Extensive hollow sections on the trunk or high up in branches must be searched for. Honey bee hives and hornet nests would certainly disqualify a tree for climbing. Active animal nests, especially during the breeding season, should be avoided in the climbing route. All these points of consideration plus many more must be contemplated by the lead climber. You don't need to hold a forestry degree or chock up years of tree surgery experience. Good eye sight and common sense does the trick.

After you've "tamed" your tree, write it down in your book of designated climbing trees. Gradually add to your list and before long you'll end up with a variety of climbs, each different and challenging. Don't forget to hang a tree register on each designated climbing tree.

Climbing Dangers

The tree itself can pose numerous problems to the climber. A careful look at several aspects is essential before climbing.

Dead branches prevail as the most dangerous and most common hazard to tree climbers. The majority of deadwood occurs on the lower portions of a tree. This is natural. A tree will reject a branch if it is not receiving regular sunlight. If a leaf doesn't receive sunlight, it can't produce sugars, or food (photosynthesis). We all know what happens if you don't produce on the job--you get laid off.

Numerous dead branches located in the crown, or top of tree, usually means death in the near future. The crown of the tree is equivalent to the brain of a tree. The majority of a tree's food is produced there.

If one side of a tree is dead, it might correlate to severe root loss or decay. It could also mean a lightning strike. Look for strips of peeled off bark to verify a lightning strike.

Extended droughts can cause a tree to start shutting down its living branches, by killing them, trying to prevent its water from leaving the tree. Dead branches can appear anywhere. If the drought lasts years, the tree could eventually die.

"But you're talking about tree surgery and arborist stuff here", some people complain. You'll need be aware of numerous facts and facets of tree life. A climber must know and understand the medium being climbed, whether it be rock, cave, buildings, or trees.

Common Problems With Novice Climbers

The most common problem encountered by novice climbers deals with the lack of upper body strength. Manually pulling your body weight up the ropes requires considerable strength. The inability to pull one's self up is greatly pronounced with overweight people. But several techniques exist to get around this problem. A climbing partner can assist by pulling down on the rope as the climber ascends. This method, called a "manual assist", does not make use of the assistant's full body weight. It merely helps the climber in sliding the know up.

Another assist method makes use of a mechanical ascender strapped tightly to one foot (Gibbs). It's called a foot cam. A foot cam makes use of a persons body weight, as opposed to upper torso strength, to gain height. The system remains a self-belay system because the same knots are used.

At the Tree Climbers International (TCI) climbing school, climbers start with the most difficult method of climbing--pulling one's self up unassisted. This gives the instructors a point of reference to a climbers weaknesses. If a climber can't climb alone, a manual assist is applied. If problems persist with upper movement, a foot cam is introduced--the surest way to get a person up regardless of body weight or strength.

The progression of starting with the hardest climbing method and then introducing easier methods when needed creates a positive impression on the novice. Instead of things getting harder, things get easier. It also gives the student a goal to shoot for. All serious students look forward to climbing on their own power. It's sort of a status symbol.

Fear of heights ranks second with problems associated with beginners. This fear is natural with all humans--even professional climbers. An instructor can only relieve a certain degree of this fear; more with some students or less with others. A total mastery of the fear of heights should not be an instructors or programs goal. A fearless climber is a reckless climber--a danger to themselves and others.

The best method of overcoming the fear of heights comes from knowledge and experience. At the TCI school, "first time climbers" climb up a short stretch of rope; usually twenty feet. This gives them a good height sensation and makes rescues (stalled climbers) simple and speedy. They get to practice ascents and descents while working all the knots.

The second climb is usually higher; about fifty feet up. At this height, climbers get a strong dose of the fear of heights. The students are then instructed to sit on a comfortable branch for a prolonged period of observation. They're really in a period of acclimation. To the novice students, it's a time to watch other climbers while they play in the canopy, usually intermediate and advanced students, or reflect on how they currently feel fifty feet up.

The third climb usually takes the novice to the top. They've already been half way up on the previous climb, so a point of reference exists along with a goal to reach higher. The fear of heights is not erased, but the control of fear is strengthened.

Handicapped Climbers

The handicapped are not excluded from the thrills of tree climbing. All one needs are a set of strong arms. Wheel chair bound people usually have all the upper body strength, plus extra to spare, for pulling themselves up. With paraplegics, the biggest problem is the altered point of balance produced from legs that are undersized due to lack of use. You'll need to rig a chest support to counter the balance--a simple matter. The same will apply to lower amputees, both single or double.

Always consult with a handicapped climber's physician if there is any doubt to whether climbing could cause injury. This is especially important if you are working with a student that has been paralyzed from an injury.

The blind and deaf can climb. The ropes will need to be set up for the blind by a seeing person. The deaf can be easily signaled by tugging their ropes from the ground.

It's best to locate a designated climbing tree on level ground for wheel chair and other handicapped climbers. Find a tree that's near a street or better yet, a parking area. Half-inch plywood strips can easily be laid down to get wheel chairs quickly to the tree. Make sure the ground is clear of debris that might trip a student.

The psychological effect on handicapped climbers is amazing. A handicapped climber rightfully feels like they are participating in something adventurous and somewhat risky. They are actually doing something most able-bodies (people) are afraid to do--climbing. The fear of heights of course enters the picture, but challenge strongly overrides it. They travel to a place few ever experience, the canopy. To the handicapped, the rite of signing the tree register holds a special importance. It tells the world in their own handwriting that they have reached a high point through their own efforts.

The psychological effect on the instructor cannot be denied either. Handicapped students exude intensity. The desire to succeed and achieve out distances most able-bodies. When a student reaches that point of victory, the tree register, it is mutually shared by the instructor.

Children Climbers

Children represent the most active climbing group. Things have not changed from the days we adults look back with fondness to tree climbing memories. We're of course not talking about technical rope climbing, kids usually climb with no equipment. Children usually remain active climbers until they are about thirteen, when other attractions start to look more interesting.

Small padded rescue saddles are used for kids. This size snugly fits a four year old. The padded leg straps make it impossible to fall out of, even when they hang upside down. The ropes are the same size used by adults, which are usually easier for them to grip with their smaller hand sizes.

Kids climb with more ease than most adults. The main reason is because of their light body weight. They have less weight to haul up. Children posses plenty of energy to spend. Any parent will attest to that. The sense of adventure is super strong in a child. They're eager to try almost anything without a second thought. And let's not forget that feeling of invincibility that children foster. To them, nothing can hurt them. Indeed, they're fearless creatures. You can bet they're ready to climb!

For the last two years, TCI participated at the Boy Scout Show held in Atlanta. This event is the largest indoor Scout gathering in the world, where over 80,000 attend. Ten climbing stations were constructed by hanging carabiners from webbing slings attached to the steel beams thirty feet up. At each show, over 500 Scouts climbed up to ring the cow bell.

Few climbers failed to reach the bell. It was usually the overweight kids that had the most problems. The ages ran from three to fourteen. Ten was the average age. The best climbers, who learned the fastest and needed little assistance, were girls from the age of six to eight.

The biggest problem with kids, besides over eagerness and hogging the ropes, was in the descent. Kids tend to pull down too hard on the knot, which effects a rapid descent. To counter the problem, the instructor gripped the rope with gloved hands to act as a brake. Of course the instructor had to know when they were ready to come down. That's why we had the kids ring a bell and notify the instructor when they were ready to descend.

Family Climbing

A number of families now climb together. Some of the parents started first at the TCI school and later brought their children. It's an adventure that offers families a chance to challenge and explore, often in the privacy of their own yard.

What Is Tree Climbers International (TCI)?

Tree Climbers International is a nonprofit organization of recreational and professional climbers. The primary goal of TCI is to establish tree climbing as a recognized sport/art form and bring it to the public's attention. This of course means establishing set standards of climbing, especially for those that seek tree climbing as a avenue of adventure, as opposed to a profession. This insures safety to the climber while not damaging the tree being climbed.

TCI is involved in a number of activities. A school currently operates in Atlanta and frequent trips are made to perform climbing seminars. Slide shows featuring climbing techniques and expeditions to the worlds largest trees are available to groups. Charity tree work, called "tree restorations", are performed on champion trees-the largest trees of their kind either on state or national levels.

An international quarterly publication, TREE CLIMBER, is available to members. The publication features information on climbing technique and equipment, profiles of notable climbers, fantastic climbs (expeditions), and true tree tales. Many of the articles and photos are submitted by the membership.

Sometimes TCI assembles a group of veteran climbers for expedition climbs to the world's largest trees, like the California redwoods or eastern poplars and oaks. The giant trees usually grow in virgin stands of timber known to very few.

Consultation is offered for those seeking to purchase equipment.

Tree Climbers Atlanta (TCA), the local climbing chapter, serves as a model for future chapters. The chapter, also called a grove, meets on a weekly basis. The grove acts independently from TCI, holding its own meetings and scheduling outings and other events. A monthly newsletter is mailed to its members.

Adding Tree Climbing To An Outdoor Program

Proper training is the most important step in starting a tree climbing program. Several options are open to you. If you have a group of instructors that plan to teach tree climbing, a qualified instructor, recommended by TCI, can go to your location. If only one instructor is responsible for instruction, they could travel to the Atlanta school for training.

You might consider establishing a climbing grove in your area. A set of standards must be followed if you wish to be chartered though TCI. All members of the grove must become members of the parent organization, TCI. The price of membership is inexpensive, with special rates to students and senior citizens.

Conclusion

An unexplored region still exists--the canopies of big trees. You might pass under a large tree every day, but few people, if any, have adventured up to its summit branch. Technical tree climbing is not easy or suited for everybody. But it's good to know a place exists, indeed possibly in your own yard, where you can discover adventure and escape a hurried world below.

LEADERSHIP: THE DEVELOPMENT OF SELF CONCEPT

by

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and

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ABSTRACT:

The goal of the Wholistic Leadership Development Model is to advance, improve and empower the total, entire person. Empowerment is seen as the basic energy necessary to create and sustain action, turning a person's intentions into reality, or put more succinctly, "putting you in control of what you want to do for yourself."

The following proceedings are based on the premise that foundational roots of our effectiveness as leaders begins with self-skills. A Wholistic Leadership Development (WLD) model will describe the skills, processes and change factors necessary for the successful integration of personal growth through awareness and empowerment of the person.

Introduction

The WLD Model is based on the concept that the training of leaders has to interrelate and interconnect between what a leader learns, how a leader is taught, and how a leader changes. What a leader learns is called Content Skills. How a leader changes is called the Change Process Phases. How a leader is taught is called the Facilitation Process. The result is change in an individual's behaviors, attitudes, and values which will improve his/her leadership performance. To improve a leader's performance means to increase his/her ability to carry out effective and efficient actions.

The WLD Model is a framework to guide the design and facilitation of leadership training programs. What the WLD Model does is provide a detailed and easy method in which to follow a format to design your own leadership training programs. The WLD Model gives examples of the Content Skills, the Change Process Phases which an individual goes through, and how the Facilitation Process works. These three are joined together by a set of Principles. This aspect enables participants in the leadership training program to change consciously, willfully, and positively.

In the WLD Model the Content Skills includes the knowledge and skills necessary for an individual to improve his/her leadership performance. The knowledge and skills vary with each leadership training program based upon the situation, the roles, the job responsibilities, and the followers and superiors the leader deals with. A leader's performance is dependent upon his/her ability to appropriately utilize three types of skills. These are Work Skills, People Skills, and Self Skills. It is assumed that a person will acquire the Content Skills which will improve his/her performance in their specific leadership situation. The presupposition is that a leader needs training in all three Content Skills areas. However, training must be appropriate to the specific leadership role, leadership responsibilities, to the task he/she is doing, and to the people he/she is working with.

In the WLD Model the Change Process Phases are a synthesis of concepts and ideas taken from the disciplines of education, psychology, sociology, and business. The Change Process Phases are the key to the overall design of the leadership training program. The model includes a series of sequential phases that a leader goes through while learning the Content Skills. The Change Process Phases are Awareness, Acceptance, Assessment, Choosing, Action Planning, and New Learning Transfer. These phases do not always have clear, distinct boundaries. One activity or experience during the leadership training program may overlap from one phase to another phase. The Change Process Phases also include an explanation of how an individual changes and how to increase change within an individual.

In the Facilitation Process, facilitate means "to assist." This is what the instructor does during the leadership training program. He/she assists leaders in acquiring the Content Skills by designing activities which follow the sequence of the Change Process Phases. The instructor helps the leader make a conscious link between the Content Skills and the leader's behaviors, attitudes, and values and the way in which these will improve his/her leadership performance. The Facilitation Process is made up of Instructional Techniques, Feedback, Sources of Feedback, and Feedback Activities.

The WLD Model is based on three Principles which determine the Content Skills, the Change Process Phases, and the Facilitation Process to be used in any leadership training program. These Principles are: (1) start where people are at, (2) find out where people want to go, and (3) do what works to help people consciously, willfully, and positively get there. At any point in the leadership training program, these three Principles can be asked. If you get three "yes" answers then your leadership training program will be successful. If you get a "no" answer then your leadership training program can be improved.

Of equal importance with Principles are the Values modeled by facilitators in a leadership training program. Congruence and effective role modeling are of utmost importance if personal growth and personal empowerment is to be maximized. Following are those Values integrate din the Wholistic Leadership Development Training Model:

Values: Respect each participant's unique humanity...allow people to develop within their unique range of personal strengths.

Honesty, Openness...building a climate for trust and rapport.

Reverence to Process - Respecting the Individual...remember that we are facilitating another person's process. It is not our process. Do not intrude. Do not control. Do not force your own needs and insights into the foreground.

Mutual Respect...group members need the leader for guidance and facilitation. The leader needs people to work with, people to serve. Nurture the creativity of the student-teacher relationship.

Congruence as Facilitators...a commitment to role model the values of the program and the skills taught.

Consciousness and Wisdom...allow participants to return again and again to an awareness of what is actually happening, providing both personal clarification and enlightenment (program debriefing, key group debriefs).

I Care...demonstrated through the values listed above, along with the capacity to "listen" and observe other people's processes.

A program utilized to initiate a positive exploration of self is "The Bi Polar Program" originating from Austin, Texas. Attached is an outline of The Bi/Polar Concept. Its application in the area of Self Skill development of the WLD Model has been very successful.

BI/POLAR® INCORPORATED . . . *Strengthening Interpersonal Relationships*

Since 1966

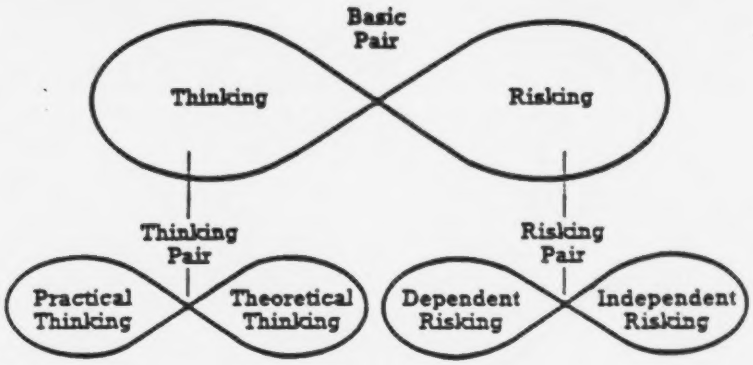
THE BI/POLAR CONCEPT

All people have a certain core at the center of their personalities. This core is made up of three pairs of polar opposite (Bi/Polar) strengths cross feeding each other in creative interaction. Within each pair, we naturally favor one or the other of these opposite strengths. It is much like being right-handed or left-handed — we naturally feel stronger, more comfortable, and more confident expressing one than the other. However, since each Bi/Polar strength contributes equally to creative living, our own personal leaning toward one or the other is simply a part of our individuality — certainly *not* any evaluation of our creativeness or worth as a person. *Two basic strengths form the first pair of core strengths:*

THINKING AND RISKING

THINKING — a stabilizing strength giving us the ability to analyze — to understand — to make plans.

RISKING — a dynamic strength giving us the ability to risk — to do something — to move into action.



The second pair is formed by dividing our basic Thinking Strength into its two component types of thinking:

Practical Thinking...and...Theoretical Thinking

Our Practical Thinking enables us to deal with facts and see things as they are...our Theoretical Thinking enables us to deal with ideas and see things as they could be. Creative thinking is a process where both kinds of thinking are active and feeding each other in creative interaction. As individuals, we are naturally stronger in one than we are in the other.

The third pair is formed by dividing our Basic Risking Strength into its two component types of risking:

Dependent Risking...and...Independent Risking

Our Dependent Risking strength enables us to trust others and draw upon their strengths...our Independent Risking strength enables us to trust ourselves and rely on our own strengths. Creative risking is a process where both kinds of risking are active and cross feeding each other. As in the other pairs, we tend to naturally lead with one of these two kinds of risking.

By identifying our lead strengths in each of these three pairs of core strengths, we can see the general outline of our own creative core. By identifying the lead strengths of other people, we see the general outline of their creative core (there are eight possible combinations or patterns). This basic awareness of ourselves and other people provides the foundation on which productive relationships and effective communication are built.

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THE WHOLISTIC LEADERSHIP DEVELOPMENT MODEL

By Lyle Benson

Content Skills

Facilitation Process

Change Process Phases

PRINCIPLES

LEADERSHIP TRAINING PROGRAM

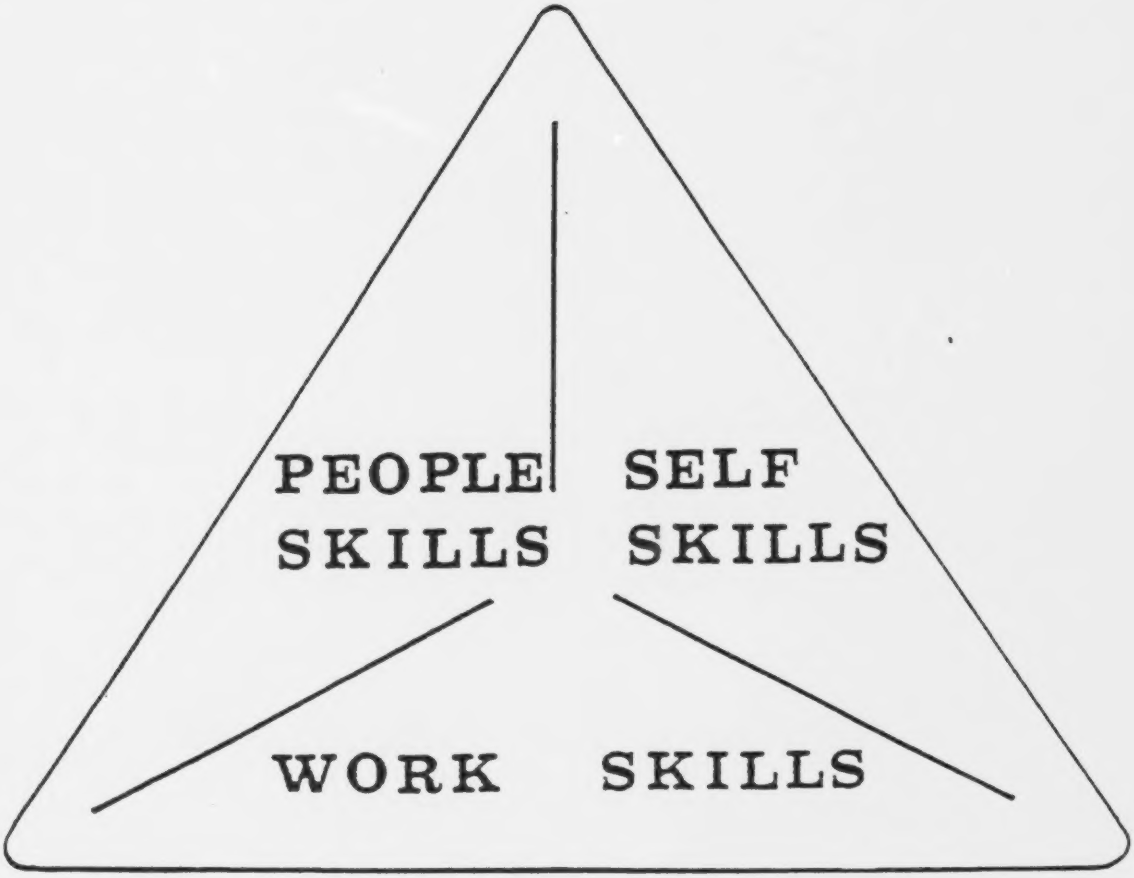
Change in Leaders Behaviors,
Attitudes and Values

Improves Leaders Performance

LEADERSHIP DEVELOPMENT

Effective leadership is using judgement to influence the activities of an individual or a group in efforts toward striving for a goal, in a given situation, with respect and honor due the individual.

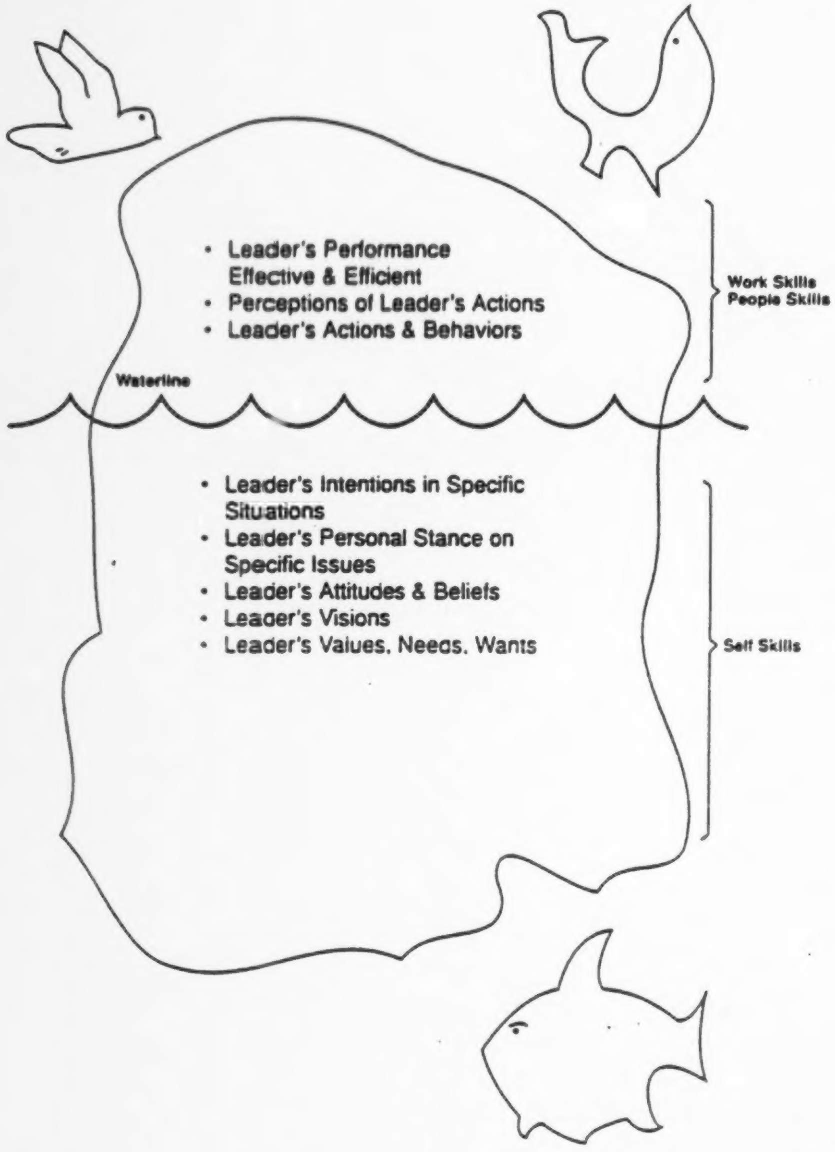
This leadership development program is a designed goal directed program linking content skills with a learning process, to create the personal change necessary for an individual to be successful in a specific role.



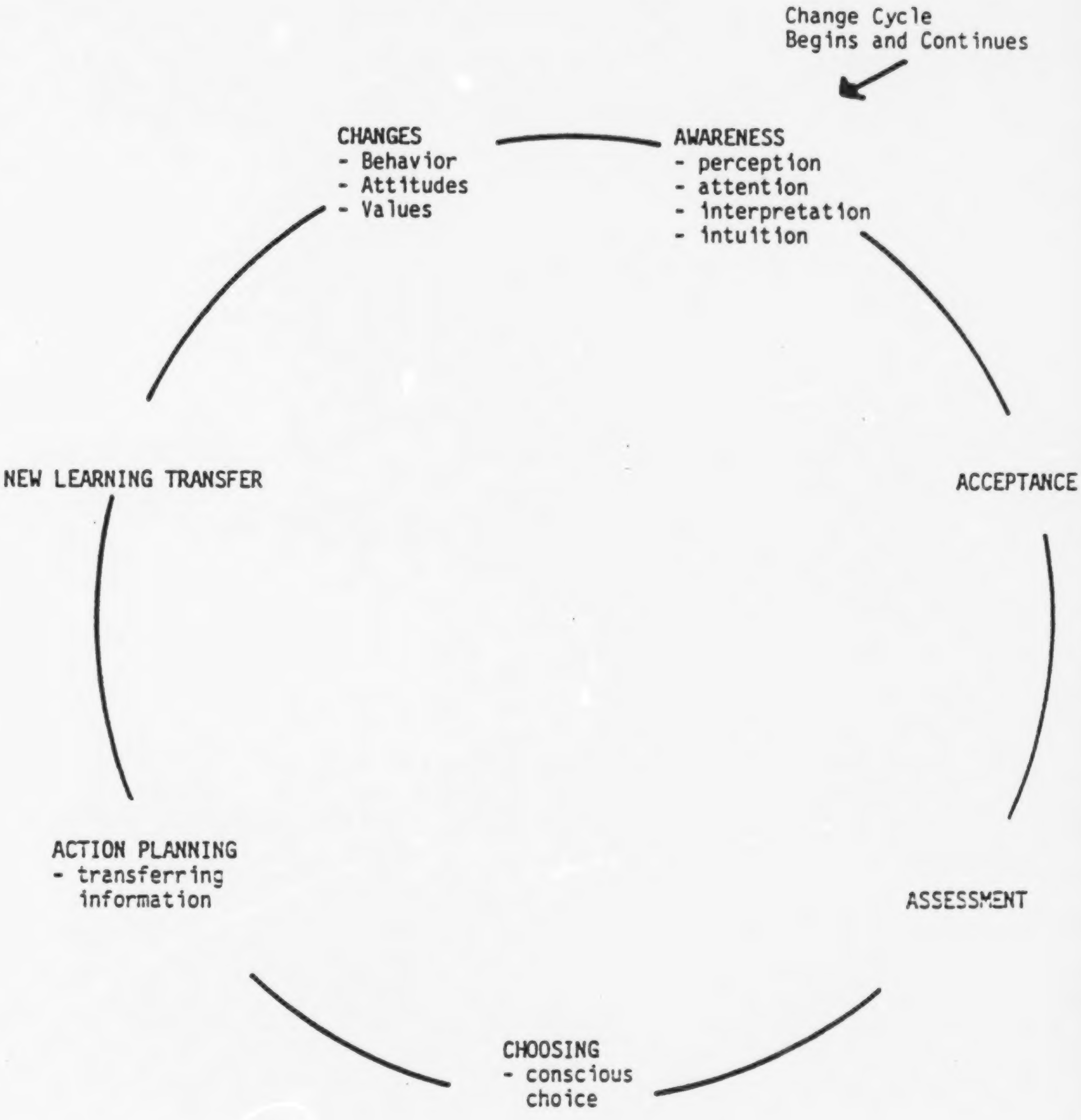
PEOPLE SKILLS ...	Enables the leader to work effectively with individuals or groups.
SELF SKILLS ...	Enables the leader to understand themselves, their strengths, weaknesses and areas of growth.
WORK SKILLS ...	Enables the leader to be responsible for people doing activities.

LEADERSHIP PERFORMANCE ICEBERG

By Lyle Benson


• Leader's Performance Effective & Efficient
• Perceptions of Leader's Actions
• Leader's Actions & Behaviors
Work Skills
People Skills
Waterline
• Leader's Intentions in Specific Situations
• Leader's Personal Stance on Specific Issues
• Leader's Attitudes & Beliefs
• Leader's Visions
• Leader's Values, Needs, Wants
Self Skills

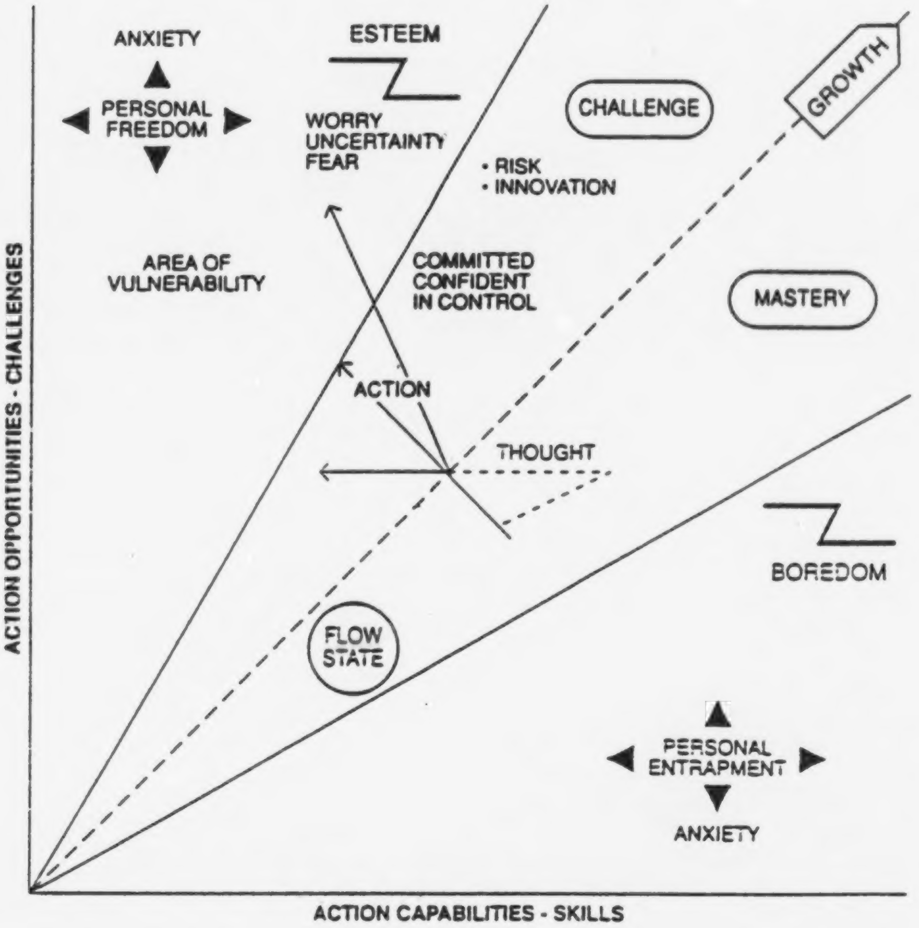
CHANGE PROCESS PHASES



EMPOWERMENT OF SELF

By Rick Matishak
Adapted from "Beyond Boredom & Anxiety" by Mihaly Csikszentmihalyi

Empower: Putting you in control of what you want to do for yourself.



SURVEY COMPILATION:
STATUS AND CONCERNS OF THE OUTDOOR RECREATION PROFESSION

by

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and

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A.C.U.I.'S Committee on Outdoor Programs

ABSTRACT:

Survey conducted to identify prevailing problems facing the outdoor recreation profession.

1. Selling to Administrators/Elevation of Status

   a. Tie goals and mission statement of program to student development (including leadership and interpersonal relations as well as life planning).

   b. Articulate the value of your program with the administrators' perspective and values in mind (i.e., how does your program enhance student development?).

   c. Constantly strive to improve your professional skills (including business skills) - status comes when your skills are valued and recognized - sell both you and your program.

   d. Promote better understanding of the value of adventure and risk-taking by taking administrators and governing boards on a ropes course.

e. Always dress in a professional manner when addressing administrators - people are generally more comfortable and accepting of those that appear more like themselves.

f. Set up a leadership workshop for the entire campus community utilizing the outdoors.

g. Send well written program reports and show flashy slide shows to supervisors - play a little politics!

h. Get involved with academic departments-package field trip programs for professors (biology, geology, etc.).

i. Tie in to the fitness craze by promoting the conditioning/training benefits of outdoor recreation.

j. Do some very unusual programming that will draw attention by media.

2. Leadership Training

a. Leadership program trainees need continual feedback and evaluation during and after the formal training period by instructors, peers, and trip participants.

b. Videos can be effective evaluation tools.

c. Adapt leadership training models from other discipline such as business.

d. Develop a staff that offers a range of role models available at a variety of learning levels (women).

e. Develop strategies that continue to motivate/-stimulate the learning and development by leaders.

f. Downplay the macho/hero prototype of the leader - provide alternative models.

g. Give leaders significant roles in defining and controlling their own programs within their level of competency.

h. Ropes courses can be an excellent leadership training tool.

3. Networking

   a. Networking for ongoing communication of issues and concerns - seek corporate sponsorship for funding.

   b. Computer networking and establishment of a bulletin board.

   c. Establish an updated mailing list.

   d. Advertise availability of videos and tapes on important issues.

4. Risk Management

   a. Need to agree on basic uniform standards

   b. Need to make information on risk management readily available through conference sessions and newsletter.

   c. Need to have specific interest meetings at conferences (i.e., risk management on rivers).

   d. Need to communicate accident statistics to administrators - they are far more favorable than most expect.

5. Destruction of the Environment

   a. Encourage the teaching of environmental awareness to children.

   b. Set a good example and model the best standards on your trips.

   c. Work to get college credit for outdoor wilderness projects.

   d. Use slide shows, videos, etc., to heighten campus awareness.

   e. Make recycling as easy as possible - inform trip participants that you are recycling garbage from your trips.

Purpose and Scope of the Survey

In an effort to assess the status and needs of Outdoor Programs as well as the skills of Outdoor

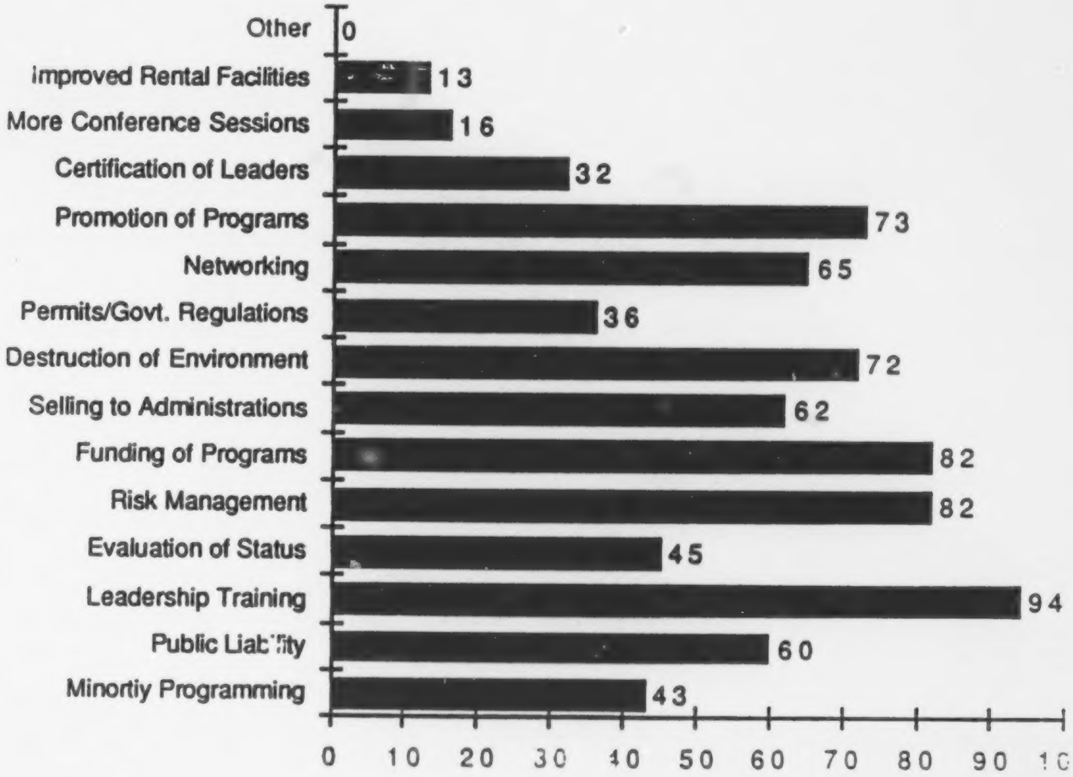
Professions throughout the world, ACUI's Committee on Outdoor Programs sent out 1212 surveys in August. Unfortunately, our mailing list included many people interested in the outdoors but who had no real connection with the profession. This coupled with a budget that did now allow the enclosure of a return stamped envelope led to a return of only 280 completed surveys.

Of the 280, 40 surveys were not included in this report because the respondent had an extremely limited connection with the field.

Please Note: This survey was designed to give a rough sampling and does purport to adhere to strict statistical principles.

Status and Concerns and Individual Program Evaluations Results:

1. Question one asked the respondent to rank their top five topics in terms of where the outdoor profession needs more work if it is to successfully meet the challenges of the future. Unfortunately, not everyone ranked their responses. The chart below shows totals for each area.



Of those that did rank their choices, the following is a list of listed in descending order with the area that received the most votes as number one.

1. Destruction of the Environment
2. Leadership Training
3. Risk Management
4. Funding of Programs
5. Public Liability
6. Selling to Administrators
7. Networking
8. Promotion of Programs
9. Minority Programming
10. Permits/Govt. Regulations
11. Elevation of the Status
12. Certification of Leaders

The other areas listed received no votes as their top concern.

2. Question 2 has two parts where the respondent evaluates his or her program. In part one the respondent listed their program's strengths. Below are the top 15 responses ranked in descending order according to frequency.

1. Diversity/variety of programs
2. Quality of staff
3. Quality of rental shop/equipment
4. Great locale for activities
5. Leadership training
6. High quality program
7. Environmental awareness
8. Administrative support
9. Personable program
10. Competitive/low cost program
11. Quality trips
12. Special populations
13. Staff commitment
14. Staff development
15. Empowering participants

In part two the respondent listed opportunities for improvement of their program. Below are the top 15 responses ranked in descending order according to frequency.

1. Promotion
2. Leadership/educational opportunities
3. Funding
4. Staff development/training
5. coordination with other units on campus

6. Variety/new ideas
7. Equipment
8. More opportunities to schedule trips
9. More staff
10. Risk management
11. Selling programs to administrators
12. Curriculum design-commuter & minority programming
13. Minority staff recruitment
14. Recruiting good candidates
15. Risk management/safety

Individual Professional Profile Results:

The second half of the survey investigated the background and proficiencies of the Outdoor Professional.

1. The following are random samples of responses concerning background information.

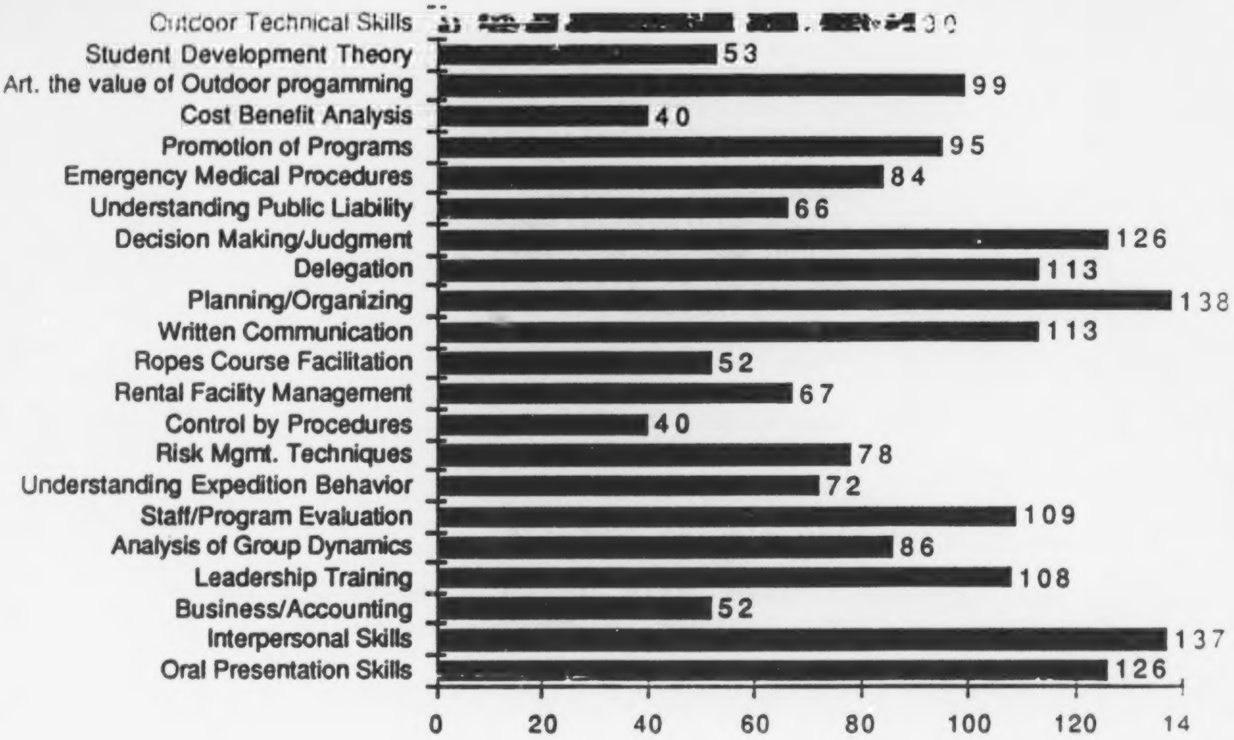
Current job title: Outdoor Program Coordinator, Coordinator of Outdoor Education & Experiential Programs, Supervisor of Outdoor Recreation, Director of Outdoor Recreation, Director of Outdoor Education, Director of College Activities, Program Coordinator.

Years in position and marital status: For the most part, those respondents whose sole responsibility was Outdoor Recreation were single and had been in the profession approximately 2-4 years.

Job responsibilities: Create new programs, improve existing programs, marketing and promotion, staff selection and training, fund raising, teach environmental education, supervise athletic program, administer an outdoor education certification program, volunteer training and development.

Educational background: B.S. in Outdoor Education/Master in Education, B.S. in Leisure Studies/M.S. in Leisure Studies, B.A./M.A. in Communication, B.A. in Parks and Recreation, B.S. in Health Dynamics, M.S. in College Student Personnel Administration, B.A. in Recreation Management, B.S. in Physical Education, B.A. in Environmental Education.

2. Question 2 called for the professional to check all the areas that he or she felt proficient.



3. In the last section again had two parts. In part one, the respondent was asked to highlight his or her personal strengths. Below are the top 15 responses ranked in descending order according to frequency.

   1. Interpersonal skills
   2. Program planning
   3. Variety of outdoor technical skills
   4. Leadership training
   5. Group dynamics
   6. Organizing
   7. Communication-oral
   8. Communication-written
   9. Management/coordination of operations
   10. Risk management/safety issues
   11. Leadership
   12. Marketing/promotion
   13. Broad exposure
   14. Creativity
   15. Drive/tenacity/perseverance

In part two the respondent listed opportunities for personal improvement. Below are the top 15 responses ranked in descending order according to frequency.

1. Fiscal management/business
2. Outdoor technical skills
3. Marketing & promotion
4. Communication-written
5. Liability
6. Communication-oral
7. First aid/E.M.T./backcountry medicine
8. Ropes course knowledge
9. Analysis of group dynamics
10. Interpersonal skills
11. Delegating tasks
12. Risk management
13. Time management
14. Leadership training
15. Fund raising

Thought provoking closing comments:

"Need broader, less male voice, image of wilderness program..." Steve Chapman, Albuquerque Academy.

"The current trend to sterile 'risk free' programmings will extinguish the very spark of outdoor adventure. Shoot the lawyers!", Bruce Mason, University of Oregon.

"Need to work together on exchange trips with other schools. Its great" Collette Berge, Pike's Peak Community College.

FRESHMAN WILDERNESS ORIENTATION PROGRAMS: MODEL PROGRAMS ACROSS THE COUNTRY

By

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Assistant Professor, Unity College
Unity, Maine

ABSTRACT:

Freshman wilderness orientation programs across the country vary in philosophy, goals, activities utilized to achieve those goals, follow-up goals and activities, evaluation methods, and role and training of the leaders. Programs from across the country participated in a recent study that collected, described and organized the current freshman wilderness orientation programs with respect to the above components.

Introduction

All college orientation programs are considered an integral part of the introductory process for freshmen. The success of any program can have a dramatic effect on the quality of students' first year at college, as well as in subsequent years. As higher education today is being challenged to be accountable for the process of education and the development of better citizens, so too are orientation programs scrutinized for their quality and long range effectiveness.

One unique orientation program is the freshman wilderness orientation program that has been developed at colleges and universities across the country. The wilderness orientation programs vary from college to college, but all utilize a variety of wilderness settings, and activities within those settings, to reach their orientation goals. Backpacking, canoeing, bicycling, rock climbing, ropes courses, city trips, group initiatives, and solo experiences are just a few examples of the experiences utilized within wilderness orientation programs to reach individual program goals. The goals vary with each program, depending upon the focus of the college. According to Gass (1984), the reasons for the development and continuation of these rograms at colleges vary from the aim of reducing the attrition rate, to promoting a more positive transition to college life, and to introducing students to the college's outing program.

The utilization of a wilderness environment for educational purposes has evolved within a wide range of programs in agencies, camps, high schools, colleges, and universities. Programs in the fields of corrections, mental health, physical rehabilitation, and education utilize group involvement and challenging activities in a natural environment to reach their goals. They are not necessarily attempting to educate for the environment, but through the environment. These programs are designed to promote the development of skills in the areas of decision making, communication, problem solving, increasing self-confidence, positive group interaction, handling stress, being able to take responsibility for actions, and many other skills.

Colleges seek to provide their students with the skills to be knowledgeable, productive, and growing individuals. Freshman orientation provides the first opportunity to develop these skills.

The freshman wilderness orientation programs at colleges across the country vary in purpose, setting utilized,, leadership personnel, activities, follow-up component, and evaluation procedure. All the programs are interested in providing the best possible introduction to each particular college. "While the use of wilderness orientation programs has grown, research into the effectiveness of these programs has been limited. Most of the studies conducted have suffered internal and/or external validity problems (Kelly, 1972; Springer, Sullivan & Williams, 1974; Wells, 1975; Dawson, 1976; Wetzel, 1978; Johnson, 1986) or have focused on serving as program descriptions (e.g. Raiola, 1984; Gilbert, 1985; Gass, Kerr & Garvey, 1986)." (Gass, 1987, p. 6)

The purpose of the O'Keefe (1989) study was to collect, describe, and organize as much information concerning these programs as possible. Examining, organizing and describing the commonalities and differences among the programs adds to the documentation of the positive impact that many educators believe these programs have on participants in achieving personal and social skills that will contribute to their overall education and that will eventually be carried over into the work place.

The following represents the summary of the findings of the O'Keefe (1989) study. The findings represent the broad spectrum of wilderness orientation programs across the country.

The Survey Study

A survey instrument was developed, piloted, and sent to 58 colleges across the United States. The purpose of this instrument was to collect information to be able to describe in detail what freshman wilderness orientation programs are doing with regard to goals; activities to reach these goals; follow-up goals and activities to the experiences; evaluation methods utilized with these programs; and personnel, role, and training of the leaders for these programs. A three-round Delphi technique was utilized to collect the information from the colleges. Forty-nine colleges responded to the first round of the study. Twenty-two colleges participated in all three rounds of the study.

Background

The following summary of the background information provides a good description of general make-up of wilderness orientation programs.

1. There is a nearly equal number of small and large colleges (13 and 11 respectively) which offer wilderness orientation programs.

2. The participants reported the Student Life office and/or faculty members are responsible for directing the wilderness orientation programs.

3. Twenty of the forty-nine colleges participating in the study reported no longer provide the wilderness component for their orientation programs. The two main reasons for the termination of these programs are finances and lack of personnel either properly trained, interested, or compensated.

4. The average length of time these programs have been in existence is eight years, with the longest program operating for 40 years. Fifty percent of the programs have been operating between one and five years.

5. Half of the wilderness orientation programs serve less than 50 freshmen per year.

6. Almost half of the programs serve between one and ten percent of their entering freshman class. Three programs serve over 80% of their

entering freshman class, which represents 95, 620, and 850 students.

7. The length of time programs have freshmen in the wilderness varies from one day to one month. The majority of programs have students in the field between four to seven days.

8. The majority of programs operate just prior to the fall semester.

9. The majority of programs do not offer credit for the freshmen. The programs that do offer it as Physical Education, Outdoor Education, Interdisciplinary, or Orientation credit.

10. The cost of wilderness orientation programs ranges from nothing to $1200. The majority of the colleges charge between $50 and $200.

Philosophy

The philosophical base from which these programs develop has an important impact on the programs themselves. The participating programs have somewhat of a common base. The following thoughts/issues relate to the philosophical base of the programs participating in this study.

1. Thirty-five percent of the participating colleges utilized goal statements in place of philosophical beliefs as the base of their program.

2. Nineteen percent of the participating colleges have a prepared philosophical statement for their program.

3. The philosophical statements listed by participating colleges revolve around the belief that students learn through experience; the use of challenge is important in the learning process; there is value in utilizing a wilderness setting; it is important to foster in students self-reliance, confidence, and a willingness to challenge themselves physically, emotionally, and academically, and that there is a need for the opportunity to build a core support group of friends.

Goals

Collecting and organizing the various goals of participating colleges was one of the main purposes of this study. The researcher felt that the underlying goals of the programs would give a good indication of the purposes of the programs and possibly the role of the programs play at the various colleges. It was found that freshman wilderness orientation program goals fall into groupings most effectively illustrated in model form. Models illustrating the similarities and differences between programs were organized and presented to the participants for evaluation. The following represents the final findings.

The goals that all models share are:

Program Goals:

1. Have fun.
2. Smooth out the transition from high school to college.
3. Transfer skills and ideas from the wilderness setting to the college setting.
4. Develop a positive connection with the college as a whole.

Personal Growth Goals:

1. Increase their confidence.
2. Better understand their strengths and weaknesses in coping with stress.
3. Increase self-esteem.
4. Assume responsibility for themselves and their own choices.
5. Enhance communication skills.

Social Skills Goals:

1. Develop a positive interaction with peers.
2. Learn to work with others.
3. Develop trust in others.
4. Gain a sense of community early on in college.

5. Develop acceptance of others.

The following differences between the models are also important and highlight the breadth of options available for wilderness orientation programs:

Model I:

1. Six programs are represented in Model I. Five out of six utilize student leaders with four of the five being led strictly by students.
2. The length of the wilderness experience for these programs averages five and a half days, the longest being eight days.
3. The training time for the leaders of these programs averages four and a half days for four of the programs. One other participant was very vague and another listed an intensive leadership training program.

Additional goals for Model I include:

Program Goals:

1. Develop peer group identity.
2. Gain information about the college.
3. Introduce students to the outing club.

Personal Growth Goals:

1. Adjust and mature.
2. Enhance decision-making skills.
3. Increase personal initiative.

Social Skills Goals:

1. Establish friendships for the next four or more years.

Model II:

1. Six programs are represented in Model II. All six utilize student leaders in conjunction with either faculty and/or staff from the college.
2. Four of the programs average six days for the wilderness experience, one program being out for 12 days and another for one month.
3. The leadership training time varies from one program not having any specific training for its leaders, to two of the programs providing semester long training programs. Two other programs provide training for three days, and another program provides training for ten days. One program specified what training it provided for its faculty involved in the program.

Additional goals for Model II include:

Program Goals:

1. Develop positive interaction with faculty.
2. Develop peer group identity.

Personal Growth Goals:

1. Enhance decision-making skills.

Social Skills Goals:

1. Learn small group skills.

Model III:

1. Seven programs are represented in Model III. All seven involve student leaders, with two of the programs utilizing student leaders only, and the rest involving the student leaders with faculty and/or staff.
2. Four of the programs average five and a half days in the wilderness, two programs average 20 days, and one program is in the wilderness for three days.
3. The leader training time varies: one program's training for two days; two programs are for approximately eight days; two programs

for three to five weeks; and two programs are for a semester.

Additional goals for Model III include:

Program Goals:

1. Improve retention.
2. Develop positive interaction with faculty.

Personal Growth Goals:

1. Adjust and mature.

Social Skills Goals:

1. Develop group problem-solving skills.
2. Reduce stereotyping.
3. Establish friendships for the next four or more years.

In summary, programs represented by Model I seem to emphasize the role of the student leader, the importance of having fun on the trips, and the importance of establishing a peer group of friends before school actually starts. These programs do not feel that the introduction of academic disciplines, retention, or discussion of intended majors or careers belongs as part of a wilderness orientation program. Programs in Model II emphasize the importance of the role of faculty, the improvement of decision-making skills, small group skills, and development of peer group identity for the freshmen. Programs in Model III emphasize the connection between the wilderness orientation program and retention, the important role faculty play in the process, the desire for freshmen to adjust and mature through the process, group problem-solving skills, and the desire to reduce stereotyping.

Activities

The participants listed activities that they utilize to reach the various goals of their programs.

1. Thirty-one percent (eight out of 26) of the participating colleges do not list any specific activities aimed at reaching their goals.

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2. Nineteen percent (five out of 26) of the participating colleges list vague and non-specific activities to reach their goals.

3. Fifty percent (13 out of 26) participating colleges list both the goals and activities to reach each goal.

Leadership

There are some commonalities and differences in how the programs address leadership.

1. Student leaders play an important role in most of these wilderness orientation programs.

2. The variety of depth of training of these student leaders is tremendous. Some programs put a great deal of time, energy, and money into the training of their leaders. Some programs have virtually no training for their leaders.

3. The length of training time varies widely from none, to semester courses with extensively developed training criteria.

4. Approximately half of the participating programs pay their leaders. The pay varies widely.

5. There is a fairly consistent leader-to-student ratio provided by the programs (one leader to four or five students).

6. There is some agreement on the topics for training. The topics that the participants agreed on focused on leadership skills, and the topics they could not agree on focused, for the most part, on technical skills.

7. Many of the participating colleges that utilize faculty personnel in the leadership role do not specify how the faculty are trained or whether they are a part of the leadership training program.

Follow-up

The follow-up component of the wilderness orientation programs is not well documented. The following represents the findings in this area.

1. Forty-six percent (12 out of 26) of the participating colleges did not respond to the initial request for the goals and activities of their follow-up component of their wilderness orientation programs.

2. Of the fifty-four percent (14 out of 26) of the participating colleges who did provide answers, thirty-six percent (five out of 14) of the responses were vague and non-specific.

3. There is more agreement on the goals appropriate for follow-up than the activities to reach these goals.

4. Many participants believe that follow-up is important but are not able to articulate or demonstrate how to achieve quality follow-up experiences for their program.

Evaluation

The evaluation component of the wilderness orientation program is not well documented. The following represents the findings in this area.

1. There is very little mention of techniques or tools to evaluate the programs for long term costs or benefits.

2. The evaluation tools listed as examples by the participating colleges are utilized immediately following the programs.

3. Two colleges sent evaluation results from studies they had completed concerning their wilderness orientation programs. However, these studies were single attempts and are not accomplished on a yearly basis.

4. Many participating colleges believe evaluation is an important aspect of freshman wilderness orientation programs, but are not able to articulate or demonstrate how to achieve quality evaluation for their programs.

Recommendations for Wilderness Orientation Programs

1. It is important for the integrity, accountability, and development of wilderness orientation programs that a defined, specific,

and written philosophy be developed for the programs.

2. It is just as important to have a well thought out list of goals and objectives to actualize the philosophy of the program. Specifically, programs need to address the issue of whether topics concerning academic and career goals should be a part of their programs, and then, if so, activities need to be developed to achieve those goals.

3. Goals are only as good as the activities utilized to reach those goals. The mountains will not speak for themselves. We need to consciously program for what we feel is important for the freshmen to experience just prior to and throughout their first year in college.

4. The leadership component of these wilderness orientation programs is one the utmost importance to their success. More time and energy needs to be put into an assessment of needs of the leaders, development of a comprehensive leadership training process, and evaluation of the training and the leaders themselves. There were participating colleges that made a point to mention the benefits they felt the student leaders receive from participating in their wilderness orientation programs. More work needs to be done to capitalize on the potential benefits for the student leaders.

5. There needs to be a paid director for the wilderness orientation program. Many programs have been dissolved because of the lack of qualified and compensated directors. It is a big and important job.

6. There needs to be budgetary reviews so that programs have adequate funding to provide a quality experience for both the freshmen and the leaders.

7. Faculty and staff need to be involved in the program. Their involvement will assist with follow-up and how comfortable the freshmen feel throughout their first year.

8. There needs to be more emphasis placed on the follow-up component of the wilderness orientation program. Research is showing the importance of this aspect of programming. More follow-up techniques need to be developed and tested.

9. There needs to be more emphasis placed on the evaluation process of these programs. It will serve many purposes: input for future programming needs, input for the instructors and their development as leaders, and input for the college and whether this is a viable and meaningful way to reach their orientation goals. There needs to be a longitudinal look at the program as well as immediate evaluation.

10. We need to continue to network as a group educators, sharing our successes and failures in order to provide the best possible programming for the freshmen we all work with.

Final Comments

In this study, considerable descriptive information was collected and organized to better understand the breadth of freshmen wilderness orientation programs across the country. In addition, this research has raised further questions concerning the effectiveness of such key program components as evaluation, follow-up, and leadership training. Clearly these issues must be addressed to enhance the professional status of wilderness orientation programs and outdoor education within the larger field of higher education.

Program evaluation is an area of critical importance, yet for many respondents to this study evaluation is non-existent or inadequate. Many program directors do not know if their goals are being met because there are no effective evaluation procedures providing this information. Critical evaluation of the success or failure of these programs over time requires more than simply intuition. Data form proper evaluation techniques can provide valuable information for program development, as well as justification of the program's worth to college administrators. Quality evaluation could also be beneficial to a wide range of other outdoor education programs.

In order to accomplish the goal of transferring skills from the wilderness setting to the college setting, leaders must be trained to facilitate this transfer. Some questions that need to be raised by program directors concerning leadership include: Should students fill the leadership role, and if so, what training is necessary to provide leaders with the facilitation skills needed to fulfill that role? One way to continue using student leaders who do not necessarily have extensive group facilitation skills, would be to significantly increase the role of follow-up programming.

Presently, follow-up programming is a component of freshman wilderness orientation programs that receives little attention, yet program directors suggest that it is important for the enrichment of their programs. If freshman wilderness orientation programs were viewed as one component of the overall freshman experience, and an extensive follow-up program were developed, the transfer of skills from the wilderness setting to the college setting could be achieved by utilizing college professionals with the appropriate facilitation skills. Clearly both the leadership training and follow-up components of freshman wilderness orientation programs also need critical evaluation.

One disturbing finding from this study was that 20 out of 58 (34%) of the programs contacted are no longer in existence. This researcher believes that this attrition is connected to misconceptions and a lack of understanding about outdoor education and experiential education. Outdoor educators have been less successful in articulating the purpose and philosophy behind wilderness orientation programs to the public, academic administrators, staff, faculty, and students. It is imperative that efforts are intensified to educate others about the scope, goals, and role of outdoor education within the education system as a whole.

This investigator believes that the field of outdoor education is at a crossroad. Up to this point, outdoor educators have been poor advocates, researchers, and educators beyond their own field. It is time for a new stage in the development of outdoor education in general, and wilderness orientation programs in particular. Being accountable and responsible for the philosophy, goals, and means by which the goals are accomplished will help foster a commitment from administrators to support wilderness orientation programs with financial support, personnel, and other college resources. Finally, it is important to reach beyond the narrow world of outdoor education to all educators, to educate others about the benefits outdoor education can offer to the development of quality higher education.

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EAGLE MOUNT - MONTANA'S PREMIERE HANDICAPPED OUTDOOR RECREATION PROGRAM

by

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ABSTRACT:

Eagle Mount is a private, non-profit organization which provided unique outdoor recreation experiences to 421 handicapped/disabled of all types and ages in 1988. The newest Eagle Mount Program is a week long residential experience coupled with three quarterly weekend retreats serving teens (10-18 years) with cancer and their families.

Introduction

Eagle Mount is a private, non-profit organization that provides outdoor recreation experiences to handicapped/disabled persons of all ages and conditions. Since its conception in 1982 it has grown from a small office with two employees and no program to ten full or part-time employees (and 400 volunteers) serving 420 plus people per year in a wide variety of programs. Although most of the "clients" served are from Montana, the new cancer kids programs has had participants from 13 states and two foreign countries.

To better understand Eagle Mount and its dynamic growth, it is necessary to examine it from the beginning. It started with the desire of Air Force General Bob Mathis and his wife Greta, a former special education teacher, to do something for people that didn't relate to the armed forces. Since Bozeman, Montana, Greta's home town, had little in the way of handicapped services, from the Pentagon, they oriented their dream west. Before actually moving to Bozeman from Washington, D.C. in 1983, they formed a parent group named I Am Third Foundation, under which Eagle Mount operates, and obtained non-profit status for it. The non-profit status is imperative for any group relying on charitable donations for financing.

After arriving in Bozeman, the Mathis's began the process of defining their dream and converting it into reality. The first step was to survey knowledgeable people both locally and statewide about the needs of the handicapped for outdoor recreation in Montana. This survey, in essence, resulted in an inventory of existing programs, personnel and facilities in addition to exploring needs. The next step was having a public meeting for anyone interested in such a project. It was attended by about 80 people who were in some way involved with the handicapped.

During this process the dream became defined as the "Special Camp for Special People." This later evolved to "Special Programs for Special People."to be an umbrella of the I Am Third Foundation and serve the area handicapped needs.

The Mathises, being founders of the I Am Third Foundation, then invited others from the community that wished to help them to join the Board of Directors. A variety of board expertise emerged including a doctor, a financial specialist, two special education experts, and a recreation/camp specialist. Since then, a lawyer and a parent of a handicapped child have been added. Although not strictly ex-officio positions, the board strives to maintain some continuity along these lines of expertise. A common bond of the board and staff is a strong commitment to the Christian persuasion. These are personal commitments that are not required or forced on volunteers or clients.

Some initial generous donations from friends of the Mathis's provided about $20,000 "seed" money to get the project rolling. One of the Mathis's sons, Harry, was hired as the first director and a part-time secretary was donated from an engineering consulting firm started by General Mathis. An office in the bottom of a bank was secured and planning for a summer program was begun in the fall of 1984. At this point the organization was set up and ready to run but no programs were in actual operation.

That fall, Cindy Fonda (Dabney), a certified recreation therapist and handicapped ski and horse expert, moved to Bozeman from the Denver area. She had worked at the Denver Children's Hospital and been very involved in Hal O'Leary's Winter Park ski program for the handicapped. In need of a job, and desiring to start a ski program for the handicapped in Bozeman, her dream was a natural complement to Eagle Mount's. She was hired in October as the program director and set about organizing Alpine and cross country ski programs to be run that January.

With a great deal of technical, organizational and equipment help from Hal O'Leary, the first Eagle Ski program was a success. The ski program had operated five days a week for 10 weeks, offering novice through racing instruction to people with cerebral palsy, blindness, mental retardation, limb loss and spinal cord injuries. They utilized the full range of equipment adaptations from outrigger skis and sleds (pulks) for para and quadriplegic skiers. Over 100 new skiers and slightly fewer volunteers met weekly at Bridger Bowl Ski Area and the dream was off and running!

The Summer of 1984 ushered in a ten-week day camp, Eagle Mount's first. Participants attended one day per week with different groups meeting Monday through Friday. The groups were largely determined by participants' ages. A variety of activities were offered, highlighted by horseback riding. Other offerings were swimming, arts and crafts, rafting, gardening, hiking, field trips and overnight camping. These original activities still provide the base for the summer program. New activities like rock climbing are offered when the expertise to them is available. A ropes course is planned in the near future.

Since 1984 the organization, including staff, budget, facilities and logistics has grown steadily as community needs dictated. The program now exists in five major forms: skiing (alpine and cross country), summer camp, early intervention, swimming, and the Big Sky Kids (teens with cancer).

Eagle Ski provides 1) alpine skiing out of Bozeman at Bridger Bowl Ski Resort for 120 plus participants, 2) cross country skiing near Bridger Bowl for 20-25 participants, and 3) alpine skiing at Red Lodge (south of Billings, Montana) for about 50 handicapped. In offering skiing, Eagle Mount is supported generously by volunteer help and the invaluable aid and support of the ski hills themselves. Each ski season is preceded by an extensive handicapped skier workshop to train volunteers. Mr. Hal O'Leary, from Winter Park, donates his leadership and energy to these sessions.

Bridger Bowl and Red Lodge donate lift tickets to skiers and volunteers and allow special arrangements for lift usage, etc. to occur. There is now an Eagle Mount ski hut (storage and office) built by volunteers at Bridger Bowl to assist the program.

The summer camp operates about eight weeks, and the original format prevails. It serves 40 - 50 clients and relies on the efforts of that many volunteers. The Eagle Mount "remuda" consists of six donated horses, most of whom are considered elderly. They are well trained but too old for really active riding. Major adaptations for this activity are a loading ramp for non-ambulatory riders and 4 inch nylon waist belts with side and rear handles.

The third program area is swimming. Started in the fall of 1985 the swimming offerings have grown to five separate groups. Swimming is broken into three categories; the adult program, children's program, and stroke victim's swimming. The adult swim sessions are further divided into multiple sclerosis, head trauma (i.e., auto accidents, falls, etc.) and spinal cord injuries. Children's swim is divided into a recreation swim and a therapeutic group.

The various conditions and capabilities of the groups served require different water temperatures, pool depths and professional and volunteer's expertise. As an example, the MS participants require cool water temperatures to reduce muscle spasms. The children's therapeutic swim, in contrast, utilizes very warm water for muscle relaxation and stretching. These varying program requirements force Eagle Mount to borrow pool time from as many as six local pools, including a motel pool. The result is a transportation nightmare in cost and logistics. Hopefully, a pool designed specifically for the handicapped will be built within the next two years.

The swimming programs are very popular and result in frequent requests for more programs in more places and of longer duration. Swimming is great exercise for the handicapped, is easy on their joints and muscles, and provides a feeling of weightlessness which they really enjoy.

The Eagle Mount Early Intervention program is for developmentally disabled (DD) infants and preschoolers. They participate in music therapy, swim/water therapy, massage therapy, speech therapy and play therapy with one or both parents. This program is offered once or twice a year, often in the fall or spring.

The newest and probably the most dramatic offering is the Big Sky Kids program for teens (ages 10 - 18) with cancer. In 1985 Eagle Mount hosted a teen cancer group from Houston, Texas for a week at Big Sky Resort. The "Sunshine Kids" outing included a few Montana kids. This presumed one-time event was so touching that Eagle Mount started its own annual summer program with the support of the Big Sky community. Starting in August 1986, a week-long residential camp experience for 16 kids and parents was begun. Additional weekend retreats at four month intervals were added to include entire families of teens with cancer. The summer week emphasizes outdoor recreation - rafting, horseback riding, golf, boating, Yellowstone field trips, overnight campouts in covered wagons, fishing, cookouts, campfires, music and a game day. It provides a time for the kids to forget about their troubles and simply enjoy themselves. It also gives them and their parents opportunity to talk with others sharing the same concerns.

The weekend retreats give the kids something to look forward to, a respite from the ordeal of treatments, doctors and hospitals, and a network of friends who understand how they feel.

The Big Sky Kids program has been a big success. So big, in fact, that Eagle Mount has been contracted to duplicate it in Colorado Springs starting June 1989. It will be held west of Colorado Springs at a camp facility called Silver Cliff.

Other than the program, Eagle Mount operates with the same functions of most small businesses. Its board of directors meets once per month and deals with the budget, personnel problems, program dynamics and planning for the future. The board is evolving into committee structure for specific functions like personnel, finance, and program. At this time, the staff consists of a director, assistant program director, Big Sky Kids director and a development specialist.

The future of Eagle Mount is promising as the demand for its services increases and its financial needs continue to be met. A permanent building appears to be approaching reality, perhaps as soon as summer, 1989. Eventually it will have offices, gym/multipurpose room, special swimming pool, greenhouse, kitchen, weight room, playgrounds, garden and riding area.

In summary, Eagle Mount is a community of:

6 full-time employees
4 part-time employees for the ski season
1 part-time employee for the horse program
2 interns for the for the summer day camp
12 board members
400 volunteers in the program, office, fundraising
700 active supporters
2,570 on the mail list
$1,000's in gifts, services, and discounts
$189,444 in contributions, memorials, and grants

AS A TEAM, EAGLE MOUNT SERVED:

120 downhill skiers at Bridger Bowl - Bozeman
20 cross country skiers at Cross Cut Ranch-Bozeman
50 downhill skiers at Red Lodge Mountain-Billings
30 kids and parents, Spring Big Sky Kids retreat

20 children in Spring swimming groups
20 adults in Spring swimming groups
40 children in Summer Day Camp
20 adults in Summer swimming groups
34 kids and parents - the Summer Big Sky Adventure
20 Children in Fall swimming groups
30 adults in Fall swimming groups
37 kids and families, Fall Big Sky Kids Retreat
421 persons served
10,500 hours of program provided
$189,364 was spent to provide these therapeutic recreational experiences for these "special people."

This compilation of facts leads one to the conclusions that: a) the need for such programs is there, probably in most communities; b) there are positive effects and life enhancement for the "clients," their families and the volunteers; and c) a dream plus commitment to that dream can result in a reality that can brighten a community and the special lives in it.

For specific information, on programs, the process, techniques or whatever, contact: Eagle Mount, P.O. Box 3118, Bozeman, Montana 59772. Telephone: (404) 586-1781.

SUCCESSFULLY ADAPTING FINANCIALLY SUBSIDIZED OUTDOOR PROGRAMS TO 'PAY THEIR OWN WAY' PROGRAMS

by

Alf Skrastins
University of Calgary

ABSTRACT:

Practical suggestions for the successful operation of "user pay" college based rental programs, outdoor trips and instructional courses.

Introduction

Suggestions For Operating a Successful User-Pay Rental Operation

Maintain good records, collect accurate data upon which to base projections. Use a computer or programmable cash register if your business volume is too large for manual paper records. (At the U of Calgary, we utilize 4 terminals to tie into the University's mainframe IBM computer for all of our inventory control and registration functions. This also provides instant access to student, staff and alumni address information and allows different types of rental program users. In addition, we use two IBM Personal System 2 Model 50 PC's and a Sharp ER 3241 programmable cash register.)

Understand your market, go with those items that sell. (There may be more interest in Telemark skis than light XC skis or more demand for kayaks than canoes. This is easy to track with even the simplest of record keeping systems. With more detailed records it would be possible to track the difference in revenue potential between different models of the same kind of gear. For example, we found that our $500.00 mountain bikes brought in an average of $735.00, while our $375.00 mountain bikes only generated $440.00 in revenue as an average.)

Keep abreast of innovation, anticipate trends, follow trade journals, attend trade shows & conferences. (Often there is a great demand for rentals of items at the start of a fad or trend. Later, the demand may fade as participants buy their own gear and as a supply of cheap used gear enters the market. It is better to anticipate the trends than to follow them a year or two too late. Also, it is important to stay ahead of technological innovation. If you rent mountain bikes do they have SIS shifting? Are you aware of the move to 21 speed gearing? How many rental programs still have frame backpacks...how often do they get rented out?)

Buy effectively. Buy wholesale at trade shows, get to know you local sales reps, buy cooperatively with other colleges or retailers. Plan ahead so that your orders will be worthwhile for wholesalers. (Trade show specials are often 5-20% below regular wholesale prices. Volume buying often means greater discounts, so split an order with a local retailer or another college...you'll both benefit. Don't bother wholesalers with nickel & dime orders, instead think about replacing all of your packs or sleeping bags at one time and then replace them again in three years.)

Use a formula to recover all the costs you need to cover. This will help you see the cause/effect relationship of your management options:

-You can reduce overhead in relation to inventory value OR you could increase inventory to spread the cost of fixed overhead costs.

-Reduce the number of "dead" items in inventory OR increase rental usage through advertising and programs. (We used to rent no more than 2 or 3 kayaks on a weekend when we offered 2 kayak courses per year. Now we run 40 sets of modular kayak courses each year and regularly rent out all of our 35 boat fleet.)

-Extend the lifespan of expensive items by investing in staff time to assure careful maintenance and servicing. (This is particularly true of items like tents, which can mildew and mountain bikes.)

-Plan on a longer useful life by buying better quality gear (Our $500.00 mountain bikes cost us an average of $212.00 to repair and service last year. The $375.00 mountain bikes cost us $366.00 to fix and service. When we sold the bikes, we got $400.00 for the $500.00 bikes and $225.00 for the $375.00 bikes...which were the better deal in the long run?)

-Reduce handling time and staff costs by investing in efficient storage design. (When we moved into our new facility, we had storage units designed specifically for items like packs, tents, ski boots, ski poles, etc. All of these were mounted on wheels so that the staff time needed to make the seasonal changeovers was minimal.

Each item has a specific spot, so it is impossible to hand out the wrong item and it is very easy to do inventory counts. Staff don't have to waste time looking for items that are tucked away "somewhere".)

Customers appreciate quality and service. You win clients and referrals with quality gear that is well maintained and available as needed. You lose customers and generate negative advertising if you hand out poorly maintained, outdated gear, or if you cannot deliver items as promised or when needed. (There is a private rental company in Calgary that rents rafts at a much cheaper rate than we do and they are one of our best sources of loyal customers. They rent cheap $300.00 rafts, while we rent professional quality self-bailers. They never check their boats for leaks and frequently customers have to repair the boat before starting their float trip. We never let our gear out unless it is completely functional. Their customers rarely go back for a second rental, instead they come to us and refer their friends to our shop.)

Invest time in staff training and supervision in order to reduce mistakes, improve effectiveness, increase efficiency and to instill pride in the work. An employee who is proud of the product will be one of your best forms of advertising.

Pay staff for their time and knowledge. "Work/-study" students usually prefer to study when you want them to work and a volunteer will find something better to do when you need them the most. (We utilize a four level salary structure with 4-5 salary increments in each level. This allows us to reward efficient, hard working staff and to recognize those who have the broadest range of knowledge and experience. It is an incentive for hard work.

Advertise aggressively. Plan on spending 4-5% of your budget to promote your service. You're only successful if you have customers.

Provide service in a way that is convenient for your customers, not just your staff.

-consider longer office hours, evenings, early mornings.
-eliminate virtually all rules & restrictions.
-provide the opportunity for advance bookings as far ahead as is possible.
-accept any form of payment...check, credit card, etc.

Provide information as well as gear. Be interested in what your customers are doing, where they are going...do they need any additional items...can you interest them in a course? Build customer allegiance. Take the time to show people how the gear works. Service sells itself.

Suggestions For Successful User-Pay Outdoor Programming

Plan a broadly based program with different program options for different types of potential participants.

-Beginners need and want fairly structured programs to gain basic skills and to get "hooked" on the fun of outdoor recreation.

-Intermediates may need planning help, direction and perhaps some additional instruction, but they will be happier in unstructured programs where they can grow and develop on their own.

-People with a good skills base and aggressive learners tend to prefer unstructured "cooperative adventures", but they to will take organized programs (at a higher level) and can be developed as leaders or instructors.

Develop programs that take advantage of the strengths of your staff...and keep an eye out for new blood with different skills. Avoid developing too many clones of yourself.

Give your staff (or potential staff) a major role in developing and expanding your program. Avoid the use of "warm bodies" to fill roles in programs that you thought up.

Virtually all of our trips and many of our courses are created by the eventual instructor/leader. They prepare a budget, calculate the per participant cost, write the program description and brochure ad, request the rooms, AV or vehicle requirements, enter the course/trip into the computer, check on registration, maintain contact with the registrants, run the trip or course, put the gear back after the event, reconcile the budget and prepare a summary report on the outing. They get paid based on the revenue and expenses of the trip. It is in their own best interest to run the best possible and most cost effective trip or course.

Utilize the natural potential of your area by focusing on those activities best suited to your local version of the outdoors.

Avoid reference to "challenge", "risk", or "fear" when describing and delivering introductory level programs. Beginners usually just want to try activities for social and/or "fun" reasons. If you scare them off, they'll never be back...but if they have a good (and a

safe) time, they'll tend to continue in the activity until they have the confidence and skills to consider being "challenged". (Our most successful programs in terms of numbers of registrants were Kayaking (628), XC Skiing (568) and Climbing (526). Two years ago they were Kayaking (17), XC Skiing (396), Climbing (21). What changed. Nothing really changed with the XC Ski program, except the amount of advertising. XC SKiing has always been seen as a pretty safe, social activity. In Kayaking and Climbing, however we split the full weekend course format into 3 hr modules that could be taught during the evening or half days on weekends. Then we selected nearby teaching sites that were well within the ability of every participant. There was no requirement for any registrant to complete the whole series of modules...you could stop the learning process after any module. Finally we took all references to challenge, risk etc. out of the program descriptions and stuck to straight forward descriptions of what would actually be taught. Suddenly every class was full. Not everyone who took kayaking or climbing went on to become a real "kayaker" or "climber", but it was certainly more than the 17 or 21 people we reached a year earlier.)

Find ways of lowering the time commitment/cost level. Look for teaching sites that suit the student, rather than the instructor.

Break instruction into more "bite-sized" modules. Become convenient. Fit your customers schedule.

Develop professionalism among your instructors via certification and ongoing staff training.

Build the quality of your programs. (Our staff includes international calibre ski instructors, nationally certified mountain guides and paddling instructors. There is no question about the qualifications of our staff, which makes dealing with government agencies, private outfitters, university administrators, and insurance people a great deal easier.)

Pricing should recover direct costs (instructor, vehicle, A.V.) as well as indirect costs (management, advertising, registration, rent).

With more programs you can spread this cost around. (See budget form. $60,000 of overhead with 300 programs and 3,000 registrant -$20.00 per registrant. $30,000 of overhead with 50 programs and 500 registrants - $60.00 per registrant.)

Advertise intensively. Make outdoor recreation socially desirable.

The following information from the University of Calgary Outdoor Program will offer insight into our outdoor program operation.

University of Calgary Outdoor Program Center
Outdoor Equipment Rentals
1987-88 Fact Sheet

A. Simplified budget

a.) General overhead (management, rent, computers, office supplies, advertising)	$87,500
b.) Equipment Purchases	$80,000
c.) Casual Staffing (student & summer help)	$48,000
Total Expenses	$215,000
Rental Revenue	$215,957
Net Surplus	$957

B. Inventory	Rental items	2756
	Inventory value	$315,500
C. Usage	# of Rental Contracts	11,287
	Total gear use/days	69,817

D. Calculated Data:

Average rental period	2.1 days
Av. # of items/contract	2.95
Av. $ value of contract	$19.13
Av. daily price/item	$ 3.09
Av. days use/item	25.3

E. University of Calgary "Overhead Constant" (per $ of inventory)

$$\frac{\dfrac{\text{Total overhead cost(\$)}}{\text{Total inventory value(\$)}}}{\dfrac{\text{Total \# of gear uses}}{\text{\# of rental items in inventory}}} \quad \frac{\dfrac{\$\ 87{,}500}{\$315{,}000}}{\dfrac{69{,}817}{2{,}756}} \quad \frac{.28}{25.3} = .011 = K$$

This constant (K) is used in the following rental rate formula.

Setting A Fair Rental Rate

User-pay rental must recover three kinds of costs:
Overhead Cost(A) + Replacement Cost(B) + Handling Costs(C)

A. Overhead Cost Recovery

"Overhead Constant" (K) X Wholesale price of each item = A

B. Inventory Replacement Cost

$$\frac{\text{Current replacement value of an item (accounts for inflation)}}{\text{Expected lifespan of the item (\# of uses)}} = B$$

C. Equipment Servicing & Handling Costs

Average time to service/handle an item X staff wage/hr. = C

Examples at the University of Calgary (actual rate)

Telemark Skis & Binding		(Cost: $156.00)			
A (overhead)	=	.011 X $156.00	=	$1.72	
B (replacement)	=	$156.00 / 80 days	=	$1.95	
C (handling)	=	7min./60 X $7.00/h	=	$ .81	
Total			=	$4.48	$3.50
Telemark Boots		(Cost: $100.00)			
A (overhead)	=	.011 X $100.00	=	$1.10	
B (replacement)	=	$100.00 / 80 days	=	$1.25	
C (handling)	=	2min/60 X $7.00/h	=	$ .23	
Total			=	$2.58	$3.50
Skis + Boots together	=	$4.48 + $2.58	=	$7.06	$7.00
Polarguard Sleeping Bag		(Cost: $115.00)			
A = .011 X $115	=	$1.27			
B = $115.00.60	=	$1.92			
C = 12/60 X $7.00	=	$1.40			
Total	=	$4.59			$5.00
Perception Kayak		(Cost: $700.00)			
A = .011 X $700	=	$7.70			
B = $700.00/130	=	$5.38			
C = 6/60 X $7.00	=	$ .70			
Total	=	$13.78			$13.00
Sierra Designs Basecamp Tent		(Cost: $465.00)			
A = .011 X $425	=	$4.67			
B = $425/120	=	$3.54			
C = 15/60 X $7.00	=	$1.75			
Total	=	$9.96			$10.00

Rental Program Statistics 1987-88

inventory grouping	#items	Days used	Revenue
small tents	53	1655	8125
medium tents	18	520	3464
large tents	28	1192	9617
sleeping bags	124	4700	20193
backpacks	93	3215	10967
stoves	68	1647	2933
windsurfers	10	252	3350
canoes	21	983	10320
river kayaks	28	718	7726
sea kayaks	9	196	3797
rafts	17	387	13473
wetsuits	115	3116	13744
wetsuit access.	142	2047	4074
bicycles	18	1127	11622
climb/hiking boots	63	1787	6738
rock shoes	45	1851	5002
climbing harnesses	47	2242	4484
crampons	51	763	2561
ice axes	64	2426	3690
ropes	15	1026	2051
all helmets	87	3129	4220
telemark skis	80	4170	14475
telemark boots	125	4687	15055
telemark poles	43	1845	1845
xc skis	130	3300	4942
xc boots	130	3148	4712
avalanche peips	71	3652	10875
pulk-shuttle	3	84	633
snowboards	5	161	812
snowshoe	25	363	1033
clothing	110	2416	4813
winter access.	205	4495	2691
miscellaneous	713	6517	1920
TOTALS	2756	69817	215957

REVENUE PROFILE	CONTRACTS	AMOUNT
Cash Customers	10014	192488
PE (ODPU) Rentals	901	17982
Course, Trip, OpenRec	372	5487
TOTALS	111287	215957

Summary of 1987-88 Outdoor Program Courses And Trips

ACTIVITY	COURSES	REGISTRANTS	TRIPS	REGISTRANTS
Backpacking	12	103	17	106
Climbing	68	526	2	11
Cycling	4	36	17	146
Canoeing	6	37	8	31
Kayaking	72	628	2	8
Sea Kayaking	3	19	10	45
Rafting	2	11	15	205
Windsurfing	10	51	1	4
Sailing	3	27	0	0
Hang Gliding	9	79	0	0
Snowshoeing	0	0	1	7
XC skiing	71	568	2	11
Ski touring	6	52	6	41
Downhill Skiing	9	39	0	0
Luge	2	15	0	0
TOTALS	277	2,191	81	615

BUDGET	Courses	Trips	Total Programs
Expenditures	59,786	62,302	122,088
Revenues	77,685	65,153	142,624
NET (surplus)	+17,471	+2,851	+20,536

3. The Indoor Climbing Room

One of the most fascinating facilities in the Physical Education Expansion is the Indoor Climbing Room which is located within the Outdoor Program Center. The Outdoor Program Center was charged with the responsibility of controlling access to the facility, while encouraging its use; and to manage the risks inherent in a climbing facility without creating a stifling atmosphere. An important aspect to consider was the challenge of creating an environment that encouraged participation by novice climbers while continuing to attract the hot-shots. This was critical because climbing can get very competitive and the potential existed that the facility would be used exclusively by a handful of top level climbers.

The implementation of these goals fell to a new full time staff position at the Outdoor Program Center and the result was success beyond the most optimistic of predictions.

The climbing room did not really open for uninterrupted operation until September 1987 and it was closed for five weeks due to the Winter Olympic Games, but even so, it has been a successful inaugural year.

All climbers are required to participate in a climbing room orientation so that they may properly sign a waiver of liability. Anyone who has signed a waiver is registered as a "climber" on our Membership List.

Total # of Climbers	2789	
U of C Students	1558	56%
Faculty or Staff	412	15%
Alumni & General Public	819	29%

A total of 17 annual and 44 term "climbing" memberships were sold to Faculty, Staff, Alumni and the General Public. Most non-students use the facility too irregularly to warrant the investment in a membership. An unknown number of the Alumni were students when they initially signed the waivers.

Initially there was no way of tracking open recreation use of the climbing room, but by late September a program had been written which could be used to record climbers UCID numbers when they came to pick up a wristband. A conservative extrapolation of these usage records would suggest that 4,350 individual open recreation climbs had taken place while the room was available.

4. Open Recreation Kayak Sessions

In early October, 1987 the Outdoor Program Center took over pool time initially allocated to the Whitewater club (which had ceased to exist). The pool was staffed by a paddler/lifeguard who would ensure that:

- all kayakers were members or had purchased wristbands.
- that equipment was properly used and stored after use.
- that a welcoming non-competitive atmosphere prevailed.

This proved very successful in terms of ending equipment abuse, free paddling by non-members and increased participation. Despite the unattractive hours (Wednesdays from 21:00 - 22:45 and Sundays from 16:30-18:30), these sessions were almost always at capacity, except for the weeks immediately following the Olympic Break. There were a total of 821 Open Recreation Kayak participations.

5. The Wilderness Resource Center

Book & Map Library With the move into the new Outdoor Program Center facility, we were finally able to revive the book, map and magazine libraries. Every book, map and magazine was catalogued and entered into the computer inventory, which allowed us to make these items available for public use.

Because the map display case which was to have been furnished in the Outdoor Program Center was useless, the maps in the public viewing area were not replaced as planned.

Five videos and a 16mm film were added to the library and are regularly used for instructional and promotional purposes.

Repair Service The industrial sewing machine, ski workbench and bicycle repair shops were used during the fall and winter as demonstration areas for instructional courses as well as an increasing business in equipment repair and maintenance.

Cooperative Adventure Trips The new Outdoor Program offices finally made it feasible to encourage participant initiated trips. These cooperative adventures were moderately successful during the fall and during January, but like everything else they faltered during and after the Winter Olympics.

There were a total of 27 trips that actually went out with a total of 93 participants who actually signed up. (There may have been more or less people on the actual outings, but we have no way of knowing that).

Slide Shows. The Outdoor Program Center sponsored 23 Wednesday evening slide shows throughout the fall and winter. They were designed to inform and to stimulate interest in organized as well as cooperative adventure trips. The attendance ranged from 13 10 189 per show for a total attendance of 931 individuals.

Open House	43	Baja Kayak	43
Larch Country	31	Hot Rocks	13
Kayak Comparison	47	Kluane Park	34
Baffin Island	33	West Coast Trail	51
Nahanni River	41	Cariboo Traverse	16
Great Bike Routes	35	Spring Ski Tours	23
End of Summer	189	Northern Canoeing	42
Telemark!	35	Multi-day Tours	18
Hut Tours	29	BC Cycle Tours	44
Bill Mason	78	Pemberton Icecap	17
Frozen Waterfalls	17	Coppermine River	24
Early Ski Trips	28	TOTAL	931

PASSAGES: HELPING COLLEGE STUDENTS MATRICULATE THROUGH OUTDOOR ADVENTURE

by

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ABSTRACT:

Since 1985, freshmen entering the University of Puget Sound have embarked on a three-day outdoor adventure program as part of their orientation experience during the week prior to the beginning of their Fall semester. In 1987, the "Passages" program, as it is called, was awarded best orientation program in the country by the National Association of Student Personnel Administrators.

Introduction

For several years the University of Puget Sound Counseling Center had offered five-day backpacking trips in the Cascades and Olympic Mountains to incoming freshmen as an optional supplement to the freshman orientation week conducted just prior to the start of Fall semester classes. Up to 20 students, in two groups, could be accommodated on these trips.

The purposes of these pre-orientation outings included opportunities for new freshmen to meet others with a common interest in the outdoors, and thereby to develop a peer support group; to become familiar with the outdoor environment of the Pacific Northwest; and to be able to apply increases in self-confidence or sense of competence experienced on the outing to meeting the academic and social demands of college. Evening group discussions would typically involve facilitation of what participants were learning about themselves, each other and the wilderness environment, and how they could apply this to situations in their lives beyond the outing. At one such discussion, a student commented on how much of a struggle it had been for him to reach the top of a mountain pass that day, and that initially he had seen this as not accomplishable. But then it occurred to him how many other things he tells himself are beyond his reach and which he therefore, does not attempt. "If I could climb this mountain," he said, "I can probably do a lot of other things I have been telling myself I can't do."

When these 20 backpackers came back to campus, they acted much differently than other freshmen who were now just arriving for orientation week. Those who had been on a five-day outing already had friends and felt comfortable in their new home. We would see many of these people still actively associating with each other two years later.

It was these kinds of outcomes that led us to consider offering this intensive, high-adventure outdoor experience to all new freshmen. Other factors included the university's commitment to more effectively address two of the most prevalent concerns of freshmen -- making early and meaningful connections with other people (students, faculty and staff) on campus, and developing confidence in their ability to do college work.

Specifics of Passages

After over a year of logistical planning, leadership training and problem solving, the first Passages program was launched in August, 1985. The program continues with some slight modifications, but retains most of its original structure.

All but about 100 of the approximately 700 to 800 freshmen entering the university each Fall participate in Passages. This group is divided in half -- a "green" group and a "gold" group, the school colors. While one group is on Passages for three days, the other group remains on campus, engaged in academic advising, registration, and a two day seminar on writing, reading and critical thinking called "Prelude." At the midpoint, the groups switch.

In early summer, freshmen are sent information about the orientation program, and asked to choose between two Passages experiences -- a small group backpacking trip in the Olympic Mountains, or a base camp experience at a large Boy Scout camp the university rents in the Olympic foothills on Puget Sound. Typically, about 20 percent choose to go backpacking; these students can choose a beginning, moderate or advanced trip, based on mileage, terrain and elevation gain. Backpacking groups consist of up to ten freshmen with two leaders, and include group discussions about personal goals and college expectations during their three days and two nights on the trail. The backpackers join with their classmates at the base camp for either a first-night or a final evening dinner and campfire program.

Those choosing the base camp experience participate in a wide variety of reflective, educational, recreational and community-building activities. Twice each day each freshman gathers with ten or so others and a student leader in a "home base" group, a modification introduced in 1988. The purpose of the home base groups is to bring the large base camp experience down to a more human and comfortable scale, and to engage freshmen in some discussion and team-building experiences that provide a sense of commonality among the entire class. (See Appendix A for more information about home base group activities). Morning workshops on topics such as meditation, nature photography and questions about college are led by student leaders, faculty and staff. In addition, freshmen at the base camp have the option of going on dayhikes in the Olympics, canoeing, sailing and rowboating on the Sound, or volleyball and other camp activities.

Evening campfire programs emphasize the togetherness among freshmen, upperclassmen, faculty and staff in the University of Puget Sound community, and invite students to make connections between their Passages experience and the academic venture upon which they are about to embark.

Leadership

Recruitment for Passages leaders begins in early February. We have been successful in attracting up to 100 qualified upperclassmen applicants for the 50 or so leader positions available each year. ABout half of these are returning, or "veteran" leaders. These people are paid a small stipend for their involvement in the program.

During the next three months, leadership training sessions cover the goals of the program, how to lead group discussions and handle various problems, conservation and environmental ethics, first aid and CPR. A good deal of community building goes on among leaders, partly to develop an espirit de corps among this group and to model what they will need to do with freshmen on Passages. This phase of the training program also includes an overnight field trip to the base camp and, for backpacking leaders, a weekend backpacking trip in the Olympic Mountains. These field trips have also been useful for additional skill-building and for discussions about how to handle various problems that might be encountered among freshmen, such as shyness or uncooperativeness. A few days before Passages begins in

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August, leaders return for final training in group dynamics, wilderness medicine and emergency procedures.

Impact, Evaluation and Outcome

Passages seems to impact freshmen in a variety of ways. The backpackers, having functioned self-sufficiently for three days, typically return as a tightknit, enthusiastic group. One backpacker said he learned that "I could hike 14 miles in the wilderness with 10 people I had never met, and get to know and appreciate each one's individuality. I now have special memories of meeting new friends at UPS, memories that are building blocks for a new beginning."

In the base camp, the experience of interacting with 150 to 300 other freshmen, upperclassmen, faculty and staff gives students a breadth of experiences--friendships form and a sense of community develops. One base camp participant summarized the experience of many in stating, "The Passages program really made a difference in the way I accepted UPS. I met people that I wouldn't have gotten a chance to meet on campus, and they are still my close friends. The outdoors has the ability to bring people closer on a one-to-one level."

In written evaluations which freshmen completed at the end of the 1988 Passages Program, the following data emerged (1 = low, 5 = high):

Effectiveness of Passages in helping freshmen meet:

	other freshmen	4.62
	upperclassmen	3.85
	faculty/staff	3.60
Leaders:	competence	4.56
	judgement	4.53
	helpful/supportive	4.74
	friendliness	4.77
Backpacking trip:		4.83

97% said they think Passages would be a valuable component of next year's orientation program.

Some comments from freshmen at the conclusion of Passages were:

> "Meeting new people really helps and will help in getting along in the year to come."

> "I had to struggle to make it up some steep hills, but when I reached the top I felt elated. There will be a lot of steep hills to climb at college, too, but when I reach the top I will be happy."

> "The most valuable aspect of Passages was meeting people, getting up in the mountains, breathing the air, seeing the view, and realizing that if I can climb a mountain I can do anything!!"

Further compelling evidence of the success of the Passages program comes from statistics that show a significantly higher rate of freshman-to-sophomore retention and a lower rate of academic probation at the end of the freshman year since Passages began, compared to previous years. Although it cannot necessarily be concluded that Passages deserves all the credit for this, it does suggest that this intensive outdoor experience helped freshmen feel more a part of the university community, an important factor for retention, and that, perhaps, students were able to more easily realize academic success as the result of personal and social successes on Passages.

One final note: we have found the program also has a significant impact on the 50 to 60 student leaders. These sophomores, juniors and seniors are given a great deal of responsibility. Indeed, the success of the program rests on their shoulders. As a result, we find leaders reporting impacts of the program on themselves ranging from, "I was able to overcome my shyness in speaking in front of a group," to "Being a Passages leader has been the most important part of college to me so far.

Appendix A

Passages 1988

Home Base Group Meetings

(Information for Leaders)

The purpose of the home base groups is to bring the large Base Camp experience (with over 300 per session) down to a more human and comfortable scale. Two leaders and 8 to 12 freshmen will comprise a group. Although all groups will be developing their own identity and discussing ideas as they arise, it is important that some activities and general emphasis be common to all groups, so that a sense of commonality and community arise out of shared experiences begins to develop among the entire freshmen class.

Suggested activities for home base group meetings are as follows:

Day 1 (Sunday 8/21 and Wednesday 8/24)

3:45 First Meeting

1. Getting acquainted exercise. Suggestions.

    a. Interviews - pair up with someone you don't know yet; interview each other for 2-4 minutes, find out at least 2 unique things about your partner; come back into large group, introduce your partner to the group (leaders participate, pairing with freshmen).

    b. Backward name - each person takes his/her first name, spells it backwards, says new name to him/herself. Then introduce self with new name in as seductive a manner as possible.

    c. Objects of nature - each person finds a natural object (stone, leaf, twig, etc.) they would be most able to identify with; come back into the circle; introduce yourself (name) and describe why you introduce with your natural object.

2. Explain purposes of Passages - making growth-enhancing choices (i.e. meeting other people), taking initiative -- these are things helpful for success in college. Also, introducing you to the Puget Sound community. Invite questions or comments about this.

3. Camp tour, stopping to pick up equipment rental.

4. Reminder - bring journals and pen to home base group meeting at 8:00 tonight. Set up place to meet.

8:00 Second Meeting

1. Commitment bands and discussion - each person gets a piece of yarn to tie around their wrist; this represents/is a symbol for something they want to get out of Passages. Suggest that they think about how they can use their Passages experience to help them in the first semester of college, or think about a new behavior you want to try out here (i.e. meeting five new people to develop friendships with). Then, each person makes a statement about their goals or commitment (possibly preceded by writing this in their individual journals - see below). finally, focus the discussion on how the group, or individuals in the group, might help each other achieve their goals at Passages and beyond; also commonalities that may have emerged.

2. Individual journals - introduce journal idea by mentioning that people are encouraged to write goals, impressions, feelings, quotes, etc. throughout Passages and beyond. Bring journals to all group meetings. Suggested first journal topic - goals and commitment to yourself for Passages; what help you can use from others and what you can give to others to help them achieve their goals.

3. Group journal - mention that there is also a journal for the group (show it) which will be available at all home base group meetings, during meal times from leader, and (possibly) at the Program Office at other times. Come up with a group name, design, logo, or slogan (as a group) to put on the cover of the group journal to personalize it. Any group member

can write impressions, meaningful or funny things said in the group, etc. in the journal. At mealtimes, a group may read a Passage from their group journal.

4. Closing activity suggestions -
    - Human knots: an exercise in problem solving
    - Trust fall
    - Group back rubs
    - Group hug

5. Reminders
    - Home base group meeting tomorrow at 9:00 a.m.
    - Optional chapel service at 10:30 tonight at Met Jr.
    - See if anyone wants to read from the group journal at a meal tomorrow
    - Campfire - now, at Campfire Point.

Day 2 (Monday 8/22 and Thursday 8/25)

9:00 A.M. Third Meeting

1. Announcements
    - What's happening today

2. Questions?

3. Individual and group journal-writing time

4. Reminders
    - Next home base group meeting tonight at 8:00
    - Group journal reading at lunch or dinner today?

8:00 P.M. Fourth Meeting

1. Open discussion - suggestions:
    - How are things going? How are you feeling?
    - What did you learn form/teach someone today?
    - How are the goals you stated for yourselves yesterday being achieved? Are any modifications necessary?
    - Comments about workshops or dayhikes-- i.e. what did you learn that could be helpful in college?

2. Green session: discuss Prelude a bit, what they will be doing. In individual journals, ask them to write about their anticipations, expectations, questions regarding Prelude.

   Gold session: discuss, "What do you want to know about college -- questions, resources, anxieties, etc."
   Write about this in individual journals.

3. Group journal-writing time.

4. Group poem (optional) - on a piece of paper, one person writes the first 2 lines of a poem, then folds the paper so only the second line is visible, and passes it to the next person who writes 2 more lines and so on. After last person writes 2 lines, read entire poem in the group.

5. Reminders
   Tonight's activities - hoedown, films for thought, optional chapel service
   Group journal/group poem readings at meals tomorrow?

Day 3 (Tuesday 8/24 and Friday 8/26)

9:00 Fifth Meeting

1. Announcements
   What's happening today

2. Questions

3. Individual and group journal-writing time

4. Reminders
   Next home base group meeting at 7:00 tonight
   Group journal reading at lunch today?
   Group representative to share at campfire? -
   - relationship of your Passages experience to life in college
   - a symbolic gift to give to the freshmen class

7:00 Sixth Meeting

1. Open discussion - suggestions:

   How you feel now -- about Passages, entering college -- compared to how you felt when you first arrived at Passages?

   How have the goals/commitments you first stated been achieved or not achieved? What do you need to do from here to continue working on these?

2. Letter to self - hand out paper and envelopes; have students write their name and campus address on envelope. Then write a letter to self, which will be mailed out later Fall semester. Include impressions, anticipations, expectations of college.

3. Commitment bands, closing - everyone removes their commitment bands from their wrist and places band in center of circle. Return to form circle. Then each person returns to center and removes a band different from the one he/she placed in there. This symbolizes a gift received from the group. Share and discuss.

4. Closing suggestion -
   - Group hug
   - Commitment of time to get together first or second week of classes.

5. Group proceeds to Campfire Point.

HOW TO SUCCESSFULLY CHANGE FROM A FINANCIALLY SUBSIDIZED OUTDOOR PROGRAM TO A PAYS-ITS-OWN-WAY OUTDOOR PROGRAM

by

David J. Webb

ABSTRACT:

Current trends are causing outdoor programs to cover more or all of the outdoor program's costs. A review of the past and present trends, sources, and control measures will help outdoor program administrators recollect their financial heritage, understand the reasons for their current financial problems, suggest solutions to succeed financially for the present, and establish financial security for the future. Sample budgets, control procedures, and other techniques for financial success from Brigham Young University and the University of Calgary will be shared. Both of these universities' outdoor programs had a gross income of $50,000 dollars and within 7 years increased to $300,000. Both programs cover all direct expenses and return moneys to the sponsoring university in the form of rent and administrative overhead assessments.

"The tragedy of science is the slaying of beautiful hypothesis with ugly facts." T.H. Huxley

"The Maturity of a Science is reflected in the accumulation of its theory." G. Direnzo 1967

"Let the maturation and slaying begin." D.J. Webb

Some outdoor programmers are like Christopher Columbus. As you know, he:
- didn't know where he came from,
- didn't know where he was,
- didn't know where he was going,
- and was doing it on an institution's money.

He suffered from a lack of accurate knowledge resulting in mismanaged controls. (At least if he was going to reach his goal of sailing to China.)

Introduction

In this paper I will examine principles and philosophies as well as give examples & tools that can help you decrease expenses and increase income within your outdoor programs.

In Walt Disney's cartoon classic, Dumbo the elephant finds himself up a tree and doesn't believe he can use his ears to safely fly back to the ground. Once given a "magic feather" to hold in his trunk, he jumps, begins to fly, drops the feather, begins falling, and at the last moment finds his ears made him fly. The tools we will show last are the magic feathers that help. The principles and philosophies we will now elucidate are the foundations for success.

Professional Improvements

In a survey conducted this past year, 195 outdoor recreation professionals ranked 22 areas of proficiency. Ranked 16th, 19th, 21st, and 22nd, were rental facility management, business/accounting, cost benefit analysis, and control by procedures (Neubert, 1988). This suggests that outdoor program professionals have room--and even a need--to sharpen their business and entrepreneurial skills.

Entrepreneur

The classic definition of an entrepreneur is an owner, partner, or executive of a business enterprise (Syme, Uysal, McLellan, 1988). He is a risk taker, decision-maker, planner, enterpriser, and innovator, observing the shifts and changes in business and aggressively applying those decisions in decision making. Clarity of vision, action-oriented, with a strong sense of urgency to make the right things happen have been revealed as differences between the management of poorly performing and highly successful organizations (Peters and Waterman, 1982). Developing unrecognized opportunities and relationships are central to entrepreneurial activities (Syme, Uysal, McLellan, 1988). Success belongs to strategic thinkers who guide their organization's direction, detect environmental changes, and respond quickly with customer oriented, innovative products (Thompson and Strickland, 1986).

Crossely and Ellis say, "Entrepreneurship is a well thought-out shift of resources from an area of low productivity to a new area of higher productivity and yield (Crossely and Ellis, 1988).

Current Trends

Current economic trends encompass reductions in spending for social programs, including outdoor adventure programs. Dr. Alan Ewert, in a 1984 study conducted while he was the coordinator of the Program of Outdoor Pursuits at Ohio State University, indicated that "the trend is toward greater programming, more sophisticated marketing . . . and more intensive program evaluation." Ewert believes that market saturation will lead to a substantial failure rate, of consolidation within the industry, and suggests that established programs which can apply some hard-nosed business principles to their operations will survive" (Ewert, 1984).

Programs like Outward Bound, Nantahala Outdoor Center, and others, are addressing the issue of economic survival by seeking new populations and reevaluating and restating program goals. Recreation organizations are facing the complex economic realities and are formulating strategies to survive and succeed.

Ethical Integrity and Business Thinking

Economic realities are not the only realities being faced. The realities of the traditional distrust of educators and recreationalists relative to profit-oriented perspectives are being reexamined. "The supposed dilemma over ethical integrity occurs when one considers to what degree business thinking will be necessary to insure economic solvency in the long term?" (Owens, 1987). What's wrong with business thinking? Couldn't a more profit-oriented approach be beneficial in reaching goals?

Robert Wolff (1988) states that "the role of private business is the satisfaction of consumer desires for goods and services." Isn't that one of the goals of the recreationalist? Can't profit-oriented perspectives, along with safety, dignity, public welfare for preservation of the environment and the development of the individual, mix to produce the greatest good for the least cost? (Bowie, 1982)

Kelly (1985) claims that in recreation one must have a firm grounding in both leisure organizational skills and business competence. He also indicates that commitment is critical to success in recreation. Commitment, as he describes it, is a greater interest in the quality and enjoyment of the business than in the bottom line profits. He goes on to say that the commitment to values is strong in a leisure-oriented business because many of the businesses are founded and operated by people who have an intense interest in the product of service they provide. Such interest and commitments reach beyond the usual profit-loss scenario so often described in business today (Jamieson, 1987).

There are thousands of "soft money" programs, says Owens (1987), struggling to exist on a year-to-year basis. Justifying an existence to funding sources every year becomes a significant maintenance task for program managers, creating depreciation is rarely covered, and long range planning isn't feasible" (Owens, 1987).

"Many administrators," Ronald Riggins (1988) reports, "have discovered that profits enhance political support and that money can be made by non-profit organiations as easily as private business can."

Improvement of Education Quality and Financial Viability

Not only can profits be made, but also the quality of the education and recreation can be improved. Nantahala Outdoor Center has been on the cutting edge of recreation education innovation. Supported by a talented staff and sophisticated programming, NOC is recreational, educational, and experiential in format: they teach people, not skills. It has blended business with recreational values and principles resulting in a successful blend of both.

Recognizing the need to blend the educator/recreationalist's training with that of entrepreneurship, the AAHPERD has begun to provide business training. "Our member's vocation is education, but as association leaders their avocation is association management-educators trying to run a business. The National Office should provide assistance in bridging the transition" states Pankau (1988).

Steve Owen (1987) states, "The application of solid business principles is paramount to the long term solvency of any organiation, including human service (recreation) organizations." I believe that application of business principles and practices with the bounds of traditional recreational social values is not only appropriate but an expectation that the public and consumers have of recreational professionals.

Components Forming an Outdoor Program

Lets now look at some of the controlling components and business principles of a successful outdoor program.

Seven components that shape your program (Webb, 1986) are:

1-Users (demographics)
2-Politics: Internal and external of the organization and sponsor

3-Personality/Abilities/Interests of the program director
4-Traditions of the program and sponsor
5-Local and regional geography
6-Financial source and size

Attempting change in one area will impact and require adjustment in almost all areas. Be prepared and prepare others before initiating changes.

The component we will now discuss is #6 Financial source and size.

Financial Source and Size

Where do your operating monies come from and your income go to? If you are a for profit business, your income comes from clients paying for a service or product. The gross income hopefully pays all expenses and returns a net income as profit (or loss) to owner, partners, or stockholders.

If you are a not-for-profit business, commonly called a non-profit organization, your income comes from clients paying for a service or product, and/or income (subsidy) received as a gift from a sponsoring organization or public. That gross income (hopefully) pays all expenses with any net income staying or returning to the not-for-profit business. No owner, partner, or stockholders receive income (or loss).

In most situations, the ideal performance in a nonprofit organization is a break-even one; that over the long run income equals expense.

Many growing organizations in inflationary economies must earn an excess of revenue if they are to provide for both working capital needs and replacement of fixed assets. It is quite legitimate, and even necessary, for a nonprofit organization to earn a "profit" (Young, 1982).

If an outdoor program's revenues exceed expenses, by more than is necessary, to provide for working capital and asset-replacement needs, then it's likely that its prices are too high or that it is not rendering enough service for what it charges. If revenues are less than expenses, and if the expenses are reasonable the outdoor programs services are being produced at a cost that is too low for those services.

Definitions of Nonprofit and Profit Organizations

If both profit and non-profit programs can realize profit, what is the difference? A non-profit organiation is an organization whose primary goal is something other than earning a profit for its owners. The typical primary goal is services. A profit organization is an

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organization whose primary goal is to return profit to its owners.

Some people prefer the term "not-for-profit" on the grounds that a business with a net loss is a 'non-profit' business. Terminology varies widely among states but in federal statutes, the usual term is "non-profit".

Success Measurement

In typical profit organizations decisions and success are primarily measured by the amount of profit earned.

In a non-profit organization decisions and success are measured by the quality and quantity of service provided with the available resources.

"Service" is vague and difficult to measure, compared to "profit". Non-profit organizations have more difficulty in making decisions and measuring success. Even so, decisions must be made and success measured in order to control the organization's short and long term direction. Management's problem is to find what management control practices and policies are useful and implement them.

Source of Financial Support: The Two Types of Non-Profit Organizations

Profit-oriented businesses receive income from sales of goods and services. Incomes must exceed expenses for the business to exist. Companies cannot make a product that the market doesn't want, and cannot sell its products unless the price is in line with what the market is willing to pay.

Some non-profit businesses also obtain all their incomes from sales revenues. This is called a client supported non-profit business which receives most or all of its funds from user fees. This non-profit business reacts to marketplace forces the same way profit oriented businesses do.

Public-supported non-profit businesses are those which receive significant financial support for sources other than revenues from services rendered. In these businesses there is no direct connection between the services received and resources provided.

Differences Between Public Supported (Subsidized) and Client-Supported (User Fee Based) Non-Profit Businesses

The most obvious difference between a client-supported and public supported business is that in the client-supported business revenues must equal the expenses. A public-supported business's incomes may be greater or smaller than expenses. Client-based businesses want more clients which will increase revenues and success. Public-based businesses may not want more clients because of the possible strain on the budget fixed by appropriations. In a profit-oriented, client supported business a new client is an opportunity, while in some public-supported businesses the new client may be a burden.

Market Influences and Personal Biases

Competition forces client-based businesses to use resources wisely. Free enterprise compels managers to choose what the public wants. The public 'votes' with its dollars for or against a business. Public-supported business receiving sponsors' monies is not constrained by business principles to use its funds in a cost effective manner, and free enterprise has little influence regarding the services provided or eliminated.

This results in managers of public-supported organizations being influenced by their personal convictions of what is important. If those personal convictions subsidize personal agendas. Substituting for free-enterprise competition is the competition among and between managers competing for funding from the sponsoring institution. The physics department, the library, and the outdoor program all try to get as large a slice of the college pie as possible. Senior management tries to judge (again using personal bias) what services should be provided and how much monies will be allocated.

A client-based business depends on satisfying the client, while the public-supported business depends on its ability to satisfy senior management. To survive and succeed in a public-supported business, senior management must first be satisfied, then the client. In the client-supported business only the client counts!

Non-profit educational institutions tend to look down on profit-oriented and client supported businesses. Even so, client-supported non-profit businesses and profit-oriented businesses succeed by efficiently and effectively serving the client, usually the least cost and by providing the greatest good.

Financial Worries End When . . .

When managers of public supported businesses can increase the perceived value of their service in the eyes of their senior managers, and/or increase the number of senior managers who value the service, security and funding is then secured.

When managers of client supported businesses can operate, realizing more clients and increased net incomes, then security and funding exists.

Characteristics of Nonprofit Organizations Affecting Controls

Characteristics that effect management controls are:

1. the profit measure
2. service organizations tendency
3. constraints on goals
4. decreased dependants on clients for support
5. dominance of professionals
6. differences in government
7. traditional inadequate management controls

The Profit Measure

An organization's effectiveness is measured by the extent that its outputs realize its goals. Its efficiency is measured by the relationship between inputs and outputs. Profit-oriented businesses have the primary, measureable goal of net income. Non-profit businesses have multiple, difficult to measure goals. The absence of a single measureable goal is the most serious problem for effective management control systems of non-profit businesses.

Profit Measure Characteristics	Not for Profit Measure Characteristics
1. Single decision criteria	1. Multiple values/ criteria for decision
2. Benefits easy to measure	2. Benefits difficult to measure because of multiplicity of values and unlike measures among and between criteria.
3. Performance easy to measure	3. Service performance is hard to measure.
4. Decisions can be decentralized ... because of a single clear and from measurable criteria ($).	4. Can't decentralize. Only top administrators can make decisions from subjective unmeasurable values.
5. Easy to compare $ with $..........	5. Hard to compare dissimilar services and products.

Service Organizations

Labor is intensive.
Service is not storable.
Service is difficult to inventory, measure, and track.
Service is difficult to measure its quality.

Constraints on Goals and Strategies

Profit oriented businesses are by nature able to quickly respond to the market place and its changes because they are consumer/client driven.

Non-profit businesses may not react, or are slow to react because they are driven by senior managers and their values rather than the market place.

Decreased Dependence on Clients for Support

In the past the dominant attitude has been to be public supported. This is the current attitude of many senior managers, even though the existing economic trend is for user fees to assume an ever increasing share of the expenses. Slow attitude changes by managers presently threatens the existence of programs because of the managements' refusal to utilize a client based, more profit controlled, financial source.

Professionals

Most senior managers in non-profit organizations are professional scientists, teachers, artists, etc. By education and experience, these professionals have little training in management or business. Some implications are listed below:

- Professionals tend to underestimate the importance of management functions.

- Professionals tend to look down on managers.

- Professionals tend to provide inadequate compensation for managers within nonprofit businesses. This reflects a lack of understanding by the public and professionals as to the importance of the management function and appropriate compensation. This is compounded by the belief that nonprofit businesses should not use bonuses or other forms of compensation.

-Professionals tend to be part-time managers, spending the balance of their time doing what their subordinates do--teaching, researching, etc. Because management is seen as part-time and of less importance than professional learning period for the professional to aquire management skills. Frequently the values of the former professional are replaced with those of the newly appointed professional. This results in short-run plans and programs with quickly visible changes, with little substantive long range results.

-Professionals often are motivated by the expectations of colleagues rather than appropriate resource management.

-Because of dual standards, those of the organization and those of the professional, and the multiple values of non-profit organization, professionals may choose the rewards of professional objectives rather than organizational objectives. The absence of the profit measure choice among values may be erratic and illogical, perhaps influenced by temporary fads. This tends to induce choice of short term goals, rather than careful analysis.

Governance

Many nonprofit businesses have no signal outside group or measure to which management is clearly accountable. Even those businesses for which a group exists, the similarity between the objectives of management and those of the outside group are not as close as when both groups are interested in a single, easily measured value--profit.

Stock holders expect earnings. Because of the difficulty in measuring performance of nonprofit organizations, and because of the diffused accountability of management usually shared among professionals, non-profit businesses have less pressure for good resource management.

Traditional Inadequate Management Controls

Prior to the 20th century traditional nonprofit business accounting was that of fiduciary accounting. Fiduciary accounting was to ensure that funds entrusted to the nonprofit business were spent for the purpose they were acquired. This was the accrual accounting concept. Accrual accounting not only is designed to ensure that funds are appropriately spent, but also measured the effectiveness and efficiency of the funds spent relative to the service rendered.

Barriers to Progress

Lacking the semiautomatic control that is provided by the profit measure, a non-profit business needs a good management control system more than a profit oriented business does.

Why hasn't this happened in non-profit businesses, i.e. outdoor programs? First, there is prevalent attitude that outdoor programs and businesses are different, that outdoor programs can't use the management control techniques of business. Second, the outdoor programs are accustomed to certain formats and resource funding and are reluctant to shift to something new. Third, outdoor program professionals perceive that a good management control system is a double edged sword in that it provides more and measurable information, not only to themselves but to senior management. With this new information, senior management may change that which the outdoor programmer may want left alone.

Technical Summary of Non-Profit Businesses

The difficulty in measuring and evaluating what success is and how efficient resources were used is the primary problem of non-profit business management.

Behavioral Summary of Non-Profit Businesses

This category would include all other mentioned topics. Most behavioral factors can be over come by education. Unless these behaviorial problems are overcome, little change will occur in the management control process or in performance of the outdoor program (Anthony and Young, 1984).

Solutions to Success

First, identification and neutralization of behavioral problems must occur for success to exist. Only after attitudes and perceptions change can organizational and management procedures change.

Second, resource measure and evaluation of individual components must be implemented in order to identify areas of low productivity that can be increased. Evaluation should uncover areas of output that don't realize an appropriate amount of return in financial and/or program goals. By causing a higher yield with fewer resources, financial and program stability can be realized. This will give security to the program in general and will permit subsidized support to less successful targeted products and services.

Measurement & Evaluation Samples

Let's look at some ways that have been used to measure and evaluate rental items.

Using a Sharp electronic cash register Model ER-3241, monthly data was collected for a 12 month period. This included: incomes received by individual staff members, income generation by hours of the day, income and usage frequency of items, income of department groups, as well as other information. Data was ranked using as Excel software spreadsheet on a Macintosh Plus with Hard disc.

Table 1 shows rental items ranked by item code numbers and is used as an index. Table 2 indicates the more popular and least popular items. Unless needed for a specific program, those items with little use should be eliminated. The quantity of those items with high use should be considered for an increase in quantity. Table 3 indicates which items generate the bulk of the rental income. As in Table 2, increase the items with a high yield should be return on the investment of the specific rental item. For example item 443 wind surfer represents a 127% return on the investment. The 27% may or may not cover over head costs but if the sail board is kept for 3 years, the purchase price and maintenance cost for three years will be less than the gross income of those 3 years.

As with Tables 2 and 3, increasing the quantity of those items with a high return on the investment should be considered and the items with a high return on the investment should be considered and the items with low or negative returns might be eliminated. (In retail merchandising margins of 30-40% must be realized in sales in order to cover overhead costs. Rentals are typically more labor intensive and thus would require higher margins on the return on the investment in order to cover the overhead costs. Because rental items are typically kept longer than one year, the return on the investment must be determined for the life of the equipment rather than a calendar year.)

By establishing measurement and evaluation for retail, repair, and programs, data can be generated by which management can make decisions. It must be remembered that decisions must be made that serve both the service values and financial values of the organization.

Broad Financial View

Table 6 is a spreadsheet of the income and expense of one outdoor program. A quick look reveals that the average yearly increase for the recorded 8 years of the following areas was:

-rentals 17% increase per year.
-repairs 77% increase per year.
-retail 87% increase per year.
-programs 706% increase per year.

When analyzing the same areas relative to the years the services were offered, we find that:

-rentals were offered for the last 20 years of which 17% increase per year was realized during the last 8 years.

-repairs were offered for the last 10 years of which a 77% increase per year was realized during the last 8 years.

-retail sales were offered for the last 12 years of which 87% increase per year was realized during the last 8 years.

-programs were offered during the last 6 years of which 5% increase per year was realized during the last 7 years.

Senior management i.e. University Presidents and Deans requested that the programmatic component be diminished during the years 1985-1987. This was a period of fear and uncertainity with regards to liability, insurance, and risk. Prior to this senior management decision and since the liability issues have stabilized, the average growth for programs has been 33% per year for a 4 year period.

Broad Financial Summary

It is easy to see that the areas of highest financial gross income growth are: retail sale 87% increase, repairs 77% increase, rentals 17% increase, and programs 5% increase. My subjective feelings are that the net income of these areas would be ranked in the same order.

Final Summary

I have attempted to show philosophical and historical perspectives of profit and non-profit businesses. Examples of measurement and control procedures explained how to achieve financial solvency.

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Table 1
Ranked By Item Code

DEFINITIONS

Item Codes .... A proprietary number assigned by us for each equipment type
Description .... A word describing the item
AQ .... An abbreviation for actual quantity of items counted during last inventory
HQ .... An abbreviation for historical quantity which is the quantity that has been the largest quantity available
Total RF .... An abbreviation for total rental frequency which is the total number of times the total number of items within the group were rented during one year
Total GI. .... An abbreviation for total gross income generated by all items within the group
PIRF. .... An abbreviated form of per item rental frequency. This figure is a result of dividing the actual quantity into average rental frequency yielding the average rental frequency of each item within a rental group
PI .... An abbreviated form of per item income. This figure is a result of dividing item group's total income by the actual quantity
Wholesale .... An abbreviated form for wholesale cost. Wholesale cost is equal to the price paid for an individual item
PI% income .... An abbreviated form of per item percent income return. This figure is a result of dividing the per item income by the wholesale cost. This figure indicates the percentage return on the investment
OTB .... An abbreviation for open to buy. This figure is a result of subtracting the actual quantity from the historical quantity. The OTB indicates the quantity of items to be purchased and added to the inventory in order to maintain the historical quantity

CODE	DESCRIPTION	AQ	HQ	TOTAL RF	TOTAL GI	PI RF	PI	WH COST	PI%INCOME	OTB
111	BEACH CRUISER	1	6	40	244.6	40	244.60	$100	245	5
120	TANDEM BIKE	7	7	525	3466.72	75	495.25	$150	330	0
124	MT BIKE	6	6	226	3927.76	38	654.63	$232	282	0
125	BIKE TRAILER	1	1	0	0	0	0.00	$220	0	0
200	FLANNEL BAG	31	66	207	1237.34	7	39.91	$50	80	35
201	SLEEP BAG COUPLER	2	2	0	0	0	0.00	$40	0	0
202	2LB SLEEPING BAG	11	15	113	596.25	10	54.20	$50	108	4
203	3LB SLEEPING BAG	43	43	741	3552.45	17	82.62	$50	165	0
204	4LB SLEEPING BAG	7	24	157	716	22	102.29	$50	205	17
205	W/P BIVY BAG	5	7	11	66.5	2	13.30	$88	15	2
206	4FT FOAM MAT	10	12	104	258.25	10	25.83	$14	182	2
207	4FT AIR MAT	8	8	29	231.19	4	28.90	$26	111	0
208	6FT FOAM MAT	34	38	264	978.5	8	28.78	$14	206	4
209	6FT AIR MAT	6	17	72	640.75	12	106.79	$26	411	11
210	CAMP COT	6	8	43	259.25	7	43.21	$43	100	2
216	INTL FRAME PACK	10	19	135	1304.25	14	130.43	$105	124	9
217	EXTL FRAME PACK	10	15	68	683.75	7	68.38	$105	65	5
220	BRISTOCONE PACK	12	26	21	148	2	12.33	$91	14	14
222	2-MAN PACK TENT	9	12	276	1525.75	31	169.53	$59	287	3
223	3-MAN PACK TENT	3	5	111	814.95	37	271.65	$229	118	2
224	4-MAN PACK TENT	1	20	34	460.3	34	460.30	$240	192	19
226	BABY CARRIER PK	4	5	11	50	3	12.50	$40	32	1
233	3-MAN CABIN TENT	9	17	85	611	9	67.89	$209	32	8
234	4-MAN CABIN TENT	16	20	139	2225.46	9	139.09	$209	67	4
236	6-MAN CABIN TENT	3	6	71	1433.9	24	477.97	$195	245	3
238	8-MAN CABIN TENT	1	1	27	647.31	27	647.31	$450	144	0
244	DINING FLY	8	16	104	874.25	13	109.28	$17	643	8
249	TARP	40	48	81	351	2	8.78	$14	63	8
250	AX	2	2	9	55.25	5	27.63	$18	153	0
253	SPLITTING MAUL	2	1	1	16.5	1	8.25	$23	36	-1
254	HATCHET	1	2	11	28.5	11	28.50	$8	356	1
256	SHOVEL	1	2	1	3.5	1	3.50	$9	39	1
271	BINOCULARS	15	15	75	218	5	14.53	$19	76	0
272	CAVING HELMETS	24	24	40	72.75	2	3.03	$12	25	0
273	CAVE HEAD LAMPS	24	24	12	48.25	1	2.01	$12	17	0
274	PROPANE LANTERN	6	10	52	474.75	9	79.13	$20	396	4
276	BATTERY LANTERN	12	7	66	291.75	6	24.31	$20	122	-5
277	COLEMAN LANTERN	2	2	3	17.5	2	8.75	$27	32	0
278	CATALYTIC HEATER	4	6	16	66.75	4	16.69	$40	42	2
279	FOLDING TABLE	4	4	5	43	1	10.75	$48	22	0
280	GAS HEATER	5	5	2	6	0	1.20	$35	3	0
302	PROPANE STOVE	9	9	61	432.36	7	48.04	$43	112	0
303	COLEMAN STOVE	4	4	46	437.5	12	109.38	$57	192	0
304	BUTANE STOVE	8	9	19	133.5	2	16.69	$14	119	1
305	PEAK 1 STOVE	5	10	10	46.25	2	9.25	$32	29	5
307	28QT CHEST	3	2	10	75	3	25.00	$29	86	-1
308	FUEL FLASK	1	2	11	62.5	11	62.50	$4	1563	1
309	CAMP-A-GRILL	1	17	8	12.5	8	12.50	$14	89	16
310	40QT CHEST	4	5	14	90.04	4	22.51	$26	86	1
311	HIBACHI	1	2	5	12.82	5	12.82	$5	254	1
312	48QT CHEST	8	12	23	115.28	3	14.41	$40	36	4
313	CONFERENCE STOVE	8	8	4	60	1	7.50	$400	2	0
314	54QT CHEST	5	6	8	36	2	7.20	$40	18	1
317	58QT CHEST	4	4	6	43.5	2	10.88	$44	25	0
318	SMALL GRIDDLE	12	14	40	152.75	3	12.73	$12	106	2
319	LARGE GRIDDLE	16	16	10	85.5	1	5.34	$23	23	0
320	60QT CHEST	8	8	40	470.06	5	58.76	$54	108	0
321	ROUND GRIDDLE	5	2	6	38.5	1	7.70	$19	41	-3
322	120QT CHEST	2	2	28	188.25	14	94.13	$66	142	0
325	DUTCH OVEN	6	12	54	242.5	9	40.42	$22	184	6
332	PEAK 1 POT SET	2	2	0	0	0	0.00	$25	0	0
340	6GAL CHEST	7	7	11	49.75	2	7.11	$18	40	0
341	1 GALLON JUG	1	1	4	8	4	8.00	$5	160	0
342	2 GALLON JUG	2	8	0	0	0	0.00	$7	0	6
343	3 GALLON JUG	1	6	45	102.75	45	102.75	$8	1285	5
344	4 GALLON JUG	6	3	0	0	0	0.00	$20	0	-3
345	5 GALLON JUG	10	10	130	484.5	13	48.45	$24	202	0
348	COOLER 10 GAL	4	4	8	34	2	8.50	$30	28	0
350	10 GALLON JUG	5	5	99	500.75	20	100.15	$39	257	0
354	COOLER 13 GAL	4	6	1	4	0	1.00	$29	3	2
356	COOLER 17 GAL	4	4	1	10.25	0	2.56	$40	6	0
360	COOLER 20 GAL	5	5	7	54.75	1	10.95	$50	22	0
401	INFLATABLE KAYAK	4	4	53	1001.87	13	250.46	$350	71	0
402	INFLATABLE KAYAK	4	4	58	967	15	241.75	$425	57	0
403	PADDLE FRAME	5	5	7	281.25	1	56.25	$100	56	0
404	11FT RAFT	4	6	40	1013.5	10	253.38	$875	29	2
405	12FT RAFT	1	1	16	566.75	16	566.75	$1,100*	52	0
406	13FT RAFT	7	4	96	4136.75	14	590.96	$2,500*	23	-3
407	16FT RAFT	3	3	9	687	3	229.00	$3,800*	6	0
408	14FT RAFT	4	4	18	1363.48	5	340.87	$2,500*	13	0
410	16FT RAFT	8	8	11	609.25	1	76.16	$3,800*	2	0
411	RAFT HAND PUMP	18	22	9	36	1	2.00	$20	10	4
412	18FT RAFT	1	1	38	1452.75	38	1452.75	$5,380*	27	0
413	WET SUIT	38	38	66	1077.7	2	28.36	$79	36	0
414	WET JACKET	2	2	10	108.81	5	54.41	$45	121	0
416	WET SUIT BOOTIES	30	30	38	187	1	6.23	$11	57	0
417	CANOE	11	10	277	5117.33	25	465.21	$374	124	-1
418	SCANOE	3	4	57	472.75	19	157.58	$394	40	1
422	LAKE PFD	69	39	170	331.5	2	4.80	$5	96	-30
423	SKI VEST	22	22	102	329.5	5	14.98	$14	107	0
424	RIVER PFD	193	205	175	1029.5	1	5.33	$41	13	12
425	PADDLE	152	152	66	167.75	0	1.10	$7	16	0
430	WATER SKIES	4	6	42	319.65	11	79.91	$85	94	2
434	SWIM FINS	3	6	32	100.75	11	33.58	$31	108	3
436	KAYAK PACKAGE	2	2	16	331.5	8	165.75	$650	26	0
437	KAYAK PADDLE	8	8	2	2.75	0	0.34	$29	1	0
438	KAYAK SPRAY SKIRT	2	2	0	0	0	0.00	$35	0	0
439	KAYAK HELMET	2	2	12	29.5	6	14.75	$19	78	0
440	FLOAT BAG	8	8	6	33.5	1	4.19	$35	12	0
443	WIND SURFER	10	10	250	3013	25	301.30	$237	127	0
460	DRY SUIT	14	14	12	167.65	1	11.98	$75	16	0
461	THROW BAG	39	39	16	35	0	0.90	$8	11	0
481	SPORT-YAK BOAT	2	2	10	147.5	5	73.75	$250	30	0
485	WAVE CUTTER	4	4	3	77	1	19.25	$485	4	0
501	MEGAPHONE	2	2	18	135	10	67.50	$39	173	0
504	BASKETBALL	7	7	42	198.5	6	28.36	$15	189	0
506	FOOTBALL	3	3	27	153	9	51.00	$16	319	0
507	NERF BALL	1	1	7	21.5	7	21.50	$6	358	0
508	KICK BALL	2	2	2	5.75	1	2.88	$9	32	0
509	SHOT PUT	2	2	3	11.5	2	5.75	$1	575	0
511	SOCCER BALL	7	8	36	141.25	5	20.18	$19	106	1
512	VOLLEYBALL	47	19	611	2124.5	13	45.20	$18	251	-28
514	VOLLEYBALL NET	53	24	684	2347.75	13	44.30	$14	316	-29
516	VOLLEYBALL STAND	50	17	428	1438.5	9	28.77	$14	213	-33
517	VOLLEYBALL SET	47	17	564	5386.75	12	114.61	$46	250	-30
518	SOFTBALL GLOVE	31	48	364	890.05	12	28.71	$17	168	17
520	SOFTBALL BAT	12	11	126	259.25	11	21.60	$15	144	-1
522	SOFTBALL	10	11	72	140.25	7	14.03	$10	140	1
524	BASES (SET OF 3)	3	6	28	61	9	20.33	$8	254	3
530	CROQUET	5	6	227	767.20	45	153.44	$30	511	1
532	HORSESHOES	8	10	158	648.5	20	81.06	$15	540	2
534	LAWN DARTS	5	10	42	164.25	8	32.85	$7	469	5
535	FRISBEE	4	6	25	75	6	18.75	$5	375	2
536	RING TOSS	5	5	32	133.25	6	26.65	$9	296	0
538	TUG-O-WAR ROPE	2	2	114	485.5	57	242.75	$1	24275	0
540	PARACHUTE	1	1	25	87.5	25	87.50	$50	175	0
554	MEN'S GOLF SET	7	10	448	1332.25	64	190.32	$89	214	3
556	WOMEN'S GOLF SET	4	3	42	132	11	33.00	$89	37	-1
558	TWISTER	1	1	25	56.5	25	56.50	$5	1130	0
600	SKI BIBS	23	36	221	2025.94	10	88.08	$17	533	13
602	SKI GOGGLES	24	24	244	665.5	10	27.73	$6	465	0
651	SANTA SUIT	27	33	67	1016.45	2	37.65	$70	54	6
652	STOCKING HATS	3	3	5	7.5	2	2.50	$7	36	0
654	AVALANCHE SHOVEL	6	6	2	10	0	1.67	$30	6	0
655	SNOW SHOES	246	246	313	1301.18	1	5.29	$30	18	0
657	ANKLE GAITERS	36	36	125	213.25	3	5.92	$8	74	0
658	TOBOGGAN	8	8	185	491.5	23	61.44	$11	559	0
660	SNOW BOARD	7	7	146	1752.13	21	250.30	$160	156	0
670	SKI GLOVES	33	33	225	638.5	7	19.35	$9	215	0
710	NORDIC SKIS	140	140	10	72.75	0	0.52	$85	1	0
715	X COUNTRY PACKAGE	88	88	1667	[illegible]	19	112.46	$124	91	0
716	TELEMARK PACKAGE	22	22	67	632.5	3	28.75	$182	16	0
720	NORDIC SKI POLES	75	75	30	46	0	0.61	$6	10	0
730	NORDIC BOOTS	160	160	33	127	0	0.79	$42	2	0
735	TELEMARK BOOTS	22	22	258	3314.48	12	150.66	$68	222	0
800	SKI PACKAGE	216	216	7175	58766.4	33	272.07	$207	131	0
805	HIGH PERFORM SKI	15	15	71	956	5	63.73	$236	27	0
806	MONOSKI	4	4	64	798.99	16	199.75	$250	80	0
810	ALPINE SKIS	220	220	46	383.01	0	1.74	$140	1	0
815	SKIS AND BOOTS	42	42	2	35	0	0.83	$184	0	0
816	SKIS AND POLES	148	148			0	0.00	$160	0	0
820	SKI POLES	64	64	172	416.31	3	6.50	$7	93	0
830	BOOTS	6	6	268	6315.78	45	1052.63	$54	1949	0
832	ICE CREAM MAKER	4	4	16	53.48	4	13.37	$35	38	0
833	BABY STROLLER	5	5	17	46	3	9.20	$29	32	0
909	ENCLOSED CAR RACK	10	10	11	101.25	1	10.13	$69	15	0
910	CAR RACK	4	4	61	260.88	15	65.22	$39	167	0
911	W/ SKI ATTACHMENT	4	4	116	458.25	29	114.56	$39	294	0
912	W/BIKE ATTACHMENT	1	1	38	220.25	38	220.25	$39	565	0
913	W/SAILBOARD ATTACH	2	2	27	106.25	14	53.13	$39	136	0
914	[illegible] BASKET	1	1	0	0	0	0.00	$39	0	0
915	STYROFOAM PAD RK	2	2	2	2.5	1	1.25	$8	16	0

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Table 2
Ranked by Rental Frequency

DEFINITIONS

Item Codes	A proprietary number assigned by us for each equipment type
Description	A word describing the item
AQ	An abbreviation for actual quantity of items counted during last inventory
HQ	An abbreviation for historical quantity which is the quantity that has been the largest quantity available
Total RF	An abbreviation for total rental frequency which is the total number of times the total number of items within this group were rented during one year
Total GI	An abbreviation for total gross income generated by all items within the group.
PIRF	An abbreviated form of per item rental frequency. This figure is a result of dividing the actual quantity into average rental frequency, yielding the average rental frequency of each item within a rental group.
PI	An abbreviated form of per item income. This figure is a result of dividing item groups total income by the actual quantity
Whcost	An abbreviated form for wholesale cost. Wholesale cost is equal to the gross cost for an individual item.
PI% Income	An abbreviated form of per item percent income return. This figure is a result of dividing the per item income by the wholesale cost. This figure indicates the percentage return on the investment.
OTB	An abbreviation for open to buy. This figure is a result of subtracting the actual quantity from the historical quantity. The OTB indicates the quantity of items to be purchased and added to the inventory in order to maintain the historical quantity.

CODE	DESCRIPTION	AQ	HQ	TOTAL RF	TOTAL GI	PI RF	PI	WH COST	PI%INCOME	OTB
800	SKI PACKAGE	216	216	7179	56784.4	33	262.81	$201	131	0
715	X COUNTRY PACKAGE	80	80	1087	8995.80	10	112.45	$124	91	0
203	3LB SLEEPING BAG	43	43	741	3562.45	17	82.82	$50	165	0
514	VOLLEYBALL NET	53	24	694	2347.75	13	44.30	$14	316	-29
512	VOLLEYBALL	47	18	611	2124.5	13	45.20	$18	251	-29
517	VOLLEYBALL SET	47	17	564	5386.75	12	114.62	$46	250	-30
120	TANDEM BIKE	7	7	525	3466.72	75	495.25	$150	330	0
564	MEN'S GOLF SET	7	10	449	1332.25	64	190.32	$89	214	3
516	VOLLEYBALL STAND	50	17	429	1488.26	9	29.77	$14	213	-33
865	SNOW SHOES	246	246	313	1301.18	1	5.29	$30	18	0
417	CANOE	11	10	277	5117.33	25	465.21	$374	124	-1
222	2-MAN PACK TENT	9	12	276	1525.75	31	169.53	$60	287	3
204	6FT FOAM MAT	34	38	264	978.5	8	28.78	$14	206	4
830	BOOTS	6	6	264	6315.76	45	1052.63	$54	1949	0
318	SOFTBALL GLOVE	21	38	264	560.66	13	26.71	$18	148	17
443	WIND SURFER	10	10	260	3013	26	301.30	$235	127	0
735	TELEMARK BOOTS	22	22	258	3314.46	12	150.65	$65	232	0
860	SKI GOGGLES	24	24	244	668.5	10	27.85	$6	463	0
850	SKI BIBS	29	39	231	2625.94	8	90.55	$17	533	10
530	CROQUET	5	6	231	827.22	46	165.44	$30	551	1
870	SKI GLOVES	33	33	229	634.5	7	19.23	$6	322	0
124	MT BIKE	6	6	226	3987.76	38	664.63	$232	282	0
209	FLANNEL BAG	31	66	207	1237.34	7	39.91	$50	80	35
868	TOBOGGAN	9	9	196	553.1	22	61.46	$11	559	0
424	RIVER PFD	193	205	175	1028.5	1	5.33	$41	13	12
820	SKI POLES	64	64	172	416.31	3	6.50	$7	93	0
422	LAKE PFD	60	30	170	331.5	2	4.80	$5	96	-30
532	HORSESHOES	8	10	158	648.5	20	81.06	$15	540	2
204	4LB SLEEPING BAG	7	24	157	718	22	102.57	$50	205	17
866	SNOW BOARD	7	7	146	1753.13	21	250.45	$161	156	0
224	4-MAN CABIN TENT	16	20	139	2225.46	9	139.09	$208	67	4
216	INTL FRAME PACK	10	16	135	1304.25	14	130.43	$105	124	6
520	SOFTBALL BAT	12	11	126	256.25	11	21.80	$15	144	-1
867	ANKLE GAITERS	39	39	120	213.25	3	5.47	$8	68	0
911	W/ SKI ATTACHMENT	4	4	116	458.25	29	114.56	$39	294	0
534	TUG-O-WAR ROPE	2	2	114	485.5	57	242.75	$1	24275	0
202	2LB SLEEPING BAG	11	15	113	596.25	10	54.20	$50	108	4
223	3-MAN PACK TENT	3	5	111	814.95	37	271.65	$229	119	2
205	4FT FOAM MAT	10	12	104	268.25	10	26.83	$14	192	2
244	DINING FLY	8	16	104	874.25	13	109.28	$17	643	8
423	SKI VEST	22	22	102	325.5	5	14.80	$14	107	0
343	5 GALLON JUG	10	10	100	484.5	10	48.45	$24	202	0
350	10 GALLON JUG	5	5	98	500.75	20	100.15	$39	257	0
413	WET SUIT	38	38	98	1077.7	3	28.36	$79	36	0
408	13FT RAFT	7	4	96	4136.75	14	591.82	"$2,580*"	23	-3
233	3-MAN CABIN TENT	9	17	95	611	9	67.89	$209	32	8
245	TARP	40	48	87	351	2	8.78	$14	63	8
805	HIGH PERFORM SKI	15	15	78	950	5	63.33	$299	21	0
877	BINOCULARS	15	15	75	218	5	14.53	$19	76	0
522	SOFTBALL	10	11	72	140.25	7	14.03	$10	140	1
205	6FT AIR MAT	6	17	72	646.75	12	107.79	$25	411	11
234	6-MAN CABIN TENT	3	6	71	1433.6	24	477.87	$195	245	3
217	EXT. FRAME PACK	10	15	68	683.4	7	68.34	$105	65	5
881	SANTA SUIT	27	33	67	1016.45	2	37.65	$70	54	6
716	TELEMARK PACKAGE	22	22	67	632	3	28.73	$182	16	0
425	PADDLE	152	152	66	167.75	0	1.10	$7	16	0
275	BATTERY LANTERN	12	7	66	291.75	6	24.31	$20	122	-5
806	MONOSKI	4	4	64	759.00	16	189.75	$230	82	0
332	PROPANE STOVE	9	9	61	432.36	7	48.04	$43	112	0
910	CAR RACK	4	4	61	260.88	15	65.22	$39	167	0
402	INFLATABLE KAYAK	4	4	59	987	15	246.75	$436	57	0
418	SCANOE	3	4	57	472.75	19	157.58	$384	41	1
306.	DUTCH OVEN	6	12	54	242.5	9	40.42	$22	184	6
401	INFLATABLE KAYAK	4	4	53	1001.87	13	250.46	$355	71	0
274	PROPANE LANTERN	6	10	52	474.75	9	79.13	$26	306	4
810	ALPINE SKIS	220	220	48	383.01	0	1.74	$140	1	0
303	COLEMAN STOVE	4	4	46	437.5	12	109.38	$57	192	0
343	3 GALLON JUG	1	6	45	182.75	45	182.75	$15	1218	5
210	CAMP COT	6	8	43	259.25	7	43.21	$43	100	2
504	BASKETBALL	7	7	42	165.5	6	23.64	$15	158	0
534	LAWN DARTS	5	10	42	164.25	8	32.85	$7	469	5
430	WATER SHOES	4	6	42	316.85	11	79.21	$94	84	2
566	WOMEN'S GOLF SET	4	3	42	132	11	33.00	$89	37	-1
272	CAVING HELMETS	24	24	40	72.75	2	3.03	$12	25	0
318	SMALL GRIDDLE	12	14	40	150.75	3	12.56	$12	105	2
320	60QT CHEST	8	8	40	470.00	5	58.75	$54	109	0
404	11FT RAFT	4	6	40	1013.5	10	253.38	$670	38	2
111	BEACH CRUISER	1	6	40	244.6	40	244.60	$100	245	5
412	16FT RAFT	1	1	38	1452.75	38	1452.75	"$5,380*"	27	0
416	WET SUIT BOOTIES	30	30	38	187	1	6.23	$11	57	0
912	W/BIKE ATTACHMENT	1	1	38	203.25	38	203.25	$39	521	0

CODE	DESCRIPTION	AQ	HQ	TOTAL RF	TOTAL GI	PI RF	PI	WH COST	PI%INCOME	OTB
511	SOCCER BALL	7	8	35	141.25	5	20.18	$19	106	1
224	4-MAN PACK TENT	1	20	34	480.3	34	480.30	$240	192	19
730	NORDIC BOOTS	140	140	33	127	0	0.91	$42	2	0
312	48QT CHEST	9	12	33	115.25	4	12.81	$33	39	3
536	RING TOSS	5	5	32	133.25	6	26.65	$9	296	0
434	SWIM FINS	3	6	32	100.75	11	33.58	$31	108	3
720	NORDIC SKI POLES	75	75	30	46	0	0.61	$6	10	0
207	4FT AIR MAT	8	8	29	231.10	4	28.89	$26	111	0
535	FRISBEE	4	6	29	79	7	19.75	$5	395	2
540	PARACHUTE	1	1	29	67.5	29	67.50	$50	175	0
325	160QT CHEST	2	2	28	168.25	14	84.13	$66	142	0
566	TWISTER	1	1	28	56.5	28	56.50	$5	1130	0
505	FOOTBALL	3	3	27	153	9	51.00	$16	319	0
913	W/SAILBOARD ATTACH	2	2	27	106.25	14	53.13	$39	136	0
236	8-MAN CABIN TENT	1	1	27	647.31	27	647.31	$450	144	0
524	BASES (SET OF 3)	3	6	26	61	9	20.33	$8	254	3
229	BRISTOCONE PACK	12	26	21	148	2	12.33	$91	14	14
304	BUTANE STOVE	8	9	19	133.5	2	16.69	$14	119	1
301	MEGAPHONE	2	2	19	135	10	67.50	$39	173	0
319	LARGE GRIDDLE	16	16	18	85.5	1	5.34	$19	28	0
409	14FT RAFT	4	4	18	1363.48	5	340.87	"$2,540*"	13	0
603	BABY STROLLER	5	5	17	41	3	8.20	$29	32	0
461	THROW BAG	39	39	16	35	0	0.90	$8	11	0
276	CATALYTIC HEATER	4	6	16	66.75	4	16.69	$40	42	2
802	ICE CREAM MAKER	4	4	16	53.49	4	13.37	$35	38	0
436	KAYAK PACKAGE	2	2	16	331.5	8	165.75	$650	26	0
405	12FT RAFT	1	1	16	556.75	16	556.75	"$1,061*"	52	0
310	40QT CHEST	4	5	14	90.04	4	22.51	$25	90	1
273	CAVE HEAD LAMPS	24	24	12	48.25	1	2.01	$12	17	0
460	DRY SUIT	14	14	12	167.65	1	11.98	$75	16	0
438	KAYAK HELMET	2	2	12	29.5	6	14.75	$19	78	0
909	ENCLOSED CAR RACK	10	10	11	101.25	1	10.13	$66	15	0
410	16FT RAFT	8	8	11	609.25	1	76.16	"$3,860*"	2	0
340	6GAL CHEST	7	7	11	49.75	2	7.11	$18	40	0
225	W/P BIVY BAG	5	5	11	66.5	2	13.30	$96	13	0
226	BABY CARRIER PK	4	5	11	50	3	12.50	$40	32	1
254	HATCHET	1	2	11	28.5	11	28.50	$8	356	1
308	FUEL FLASK	1	2	11	63.5	11	63.50	$4	1588	1
710	NORDIC SKIS	140	140	10	73.75	0	0.53	$65	1	0
305	PEAK 1 STOVE	5	10	10	46.25	2	9.25	$32	29	5
307	28QT CHEST	3	2	10	75	3	25.00	$29	86	-1
414	WET JACKET	2	2	10	108.81	5	54.41	$45	121	0
481	SPORT-YAK BOAT	2	2	10	147.5	5	73.75	$250	30	0
411	RAFT HAND PUMP	18	22	9	36	1	2.00	$20	10	4
407	16FT RAFT	3	3	9	687	3	229.00	"$3,860*"	6	0
250	AX	2	2	9	55.25	5	27.63	$18	153	0
314	54QT CHEST	5	6	8	36	2	7.20	$36	19	1
348	COOLER 10 GAL	4	4	8	34	2	8.50	$30	28	0
338	CAMP-A-GRILL	1	17	8	10.5	8	10.50	$12	88	16
380	COOLER 20 GAL	5	5	7	54.75	1	10.95	$50	22	0
403	PADDLE FRAME	5	5	7	281.25	1	56.25	$100	56	0
507	NERF BALL	1	1	7	21.5	7	21.50	$8	269	0
440	FLOAT BAG	6	6	6	25.5	1	4.25	$35	12	0
321	ROUND GRIDDLE	5	2	6	38.5	1	7.70	$19	41	-3
317	96QT CHEST	4	4	6	43.5	2	10.88	$43	25	0
278	FOLDING TABLE	4	4	5	43	1	10.75	$46	23	0
683	STOCKING HATS	3	3	5	7.5	2	2.50	$7	36	0
311	HIBACHI	1	2	5	12.82	5	12.82	$5	256	1
313	CONFERENCE STOVE	8	8	4	60	1	7.50	$400	2	0
341	1 GALLON JUG	1	1	4	6	4	6.00	$4	150	0
485	WAVE CUTTER	4	4	3	41	1	10.25	$245	4	0
277	COLEMAN LANTERN	2	2	3	17.5	2	8.75	[illegible]	[illegible]	0
309	SHOT PUT	2	2	3	11.5	2	5.75	$1	575	0
815	SKIS AND BOOTS	42	42	2	35	0	0.83	$184	0	0
437	KAYAK PADDLE	8	8	2	2.75	0	0.34	$25	1	0
864	AVALANCHE SHOVEL	6	6	2	10	0	1.67	$30	6	0
280	GAS HEATER	5	5	2	6	0	1.20	$35	3	0
508	KICK BALL	2	2	2	5.75	1	2.88	$9	32	0
915	STYROFOAM PAD RK	2	2	2	2.5	1	1.25	$8	16	0
354	COOLER 13 GAL	4	6	1	4	0	1.00	$36	3	2
358	COOLER 17 GAL	4	4	1	10.25	0	2.56	$40	6	0
253	SPLITTING MAUL	2	1	1	16.5	1	8.25	$23	36	-1
256	SHOVEL	1	2	1	3.5	1	3.50	$9	39	1
344	4 GALLON JUG	6	3	0	0	0	0.00	$20	0	-3
201	SLEEP BAG COUPLER	2	2	0	0	0	0.00	$40	0	0
332	PEAK 1 PCT SET	2	2	0	0	0	0.00	$29	0	0
342	2 GALLON JUG	2	8	0	0	0	0.00	$7	0	6
439	KAYAK SPRAY SKIRT	2	2	0	0	0	0.00	$35	0	0
126	BIKE TRAILER	1	1	0	0	0	0.00	$220	0	0
914	W/ BASKET	1	1	0	0	0	0.00	$36	0	0
816	SKIS AND POLES	146	146			0	0.00	$180	0	0

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Table 3
Ranked By Gross Income

DEFINITIONS

Item Codes .... A predetermined number assigned by us for each equipment type
Description .... A word describing the item
AQ .... An abbreviation for actual quantity of items counted during last inventory
HQ .... An abbreviation for historical quantity which is the quantity that has been the target quantity available
Total RF .... An abbreviation for total rental frequency which is the total number of times the total number of items within the group were rented during one year
Total GI .... An abbreviation for total gross income generated by all items within the group
PIRF .... An abbreviated form of per item rental frequency. This figure is a result of dividing the actual quantity into average rental frequency yielding the average rental frequency of each item within a rental group.
PI .... An abbreviated form of per item income. This figure is a result of dividing item groups total income by the actual quantity.
Wholesale .... An abbreviated form for wholesale cost. Wholesale cost is equal to the gross cost of an individual item.
Pct. Income .... An abbreviated form of per item percent income return. This figure is a result of dividing the per item income by the wholesale cost. The figure indicates the percentage return on the investment.
OTB .... An abbreviation for open to buy. This figure is a result of subtracting the actual quantity from the historical quantity. The OTB indicates the quantity of items to be purchased and added to the inventory in order to maintain the historical quantity.

CODE	DESCRIPTION	AQ	HQ	TOTAL RF	TOTAL GI	PI RF	PI	WH COST	Pct.INCOME	OTB
600	SKI PACKAGE	216	216	7179	58706.4	33	282.81	$201	131	0
715	X COUNTRY PACKAGE	88	88	1867	9896.48	10	112.46	$124	91	0
630	BOOTS	6	6	294	6375.75	46	1062.63	$84	1040	0
517	VOLLEYBALL SET	47	17	564	5386.75	12	114.62	$46	250	-30
417	CANOE	11	10	277	5128.33	25	466.21	$374	124	-1
443	WIND SURFER	10	10	250	5013	26	501.30	$395	127	0
406	13FT RAFT	7	4	86	4136.75	14	590.62	"$2,540"	23	-3
124	MT BIKE	6	6	226	3927.75	38	654.63	$232	282	0
203	3LB SLEEPING BAG	43	43	741	3552.45	17	82.62	$50	165	0
120	TANDEM BIKE	7	7	525	3466.72	75	495.25	$150	330	0
735	TELEMARK BOOTS	22	22	254	3314.46	12	150.65	$65	232	0
650	SKI BIBS	29	39	231	2625.84	8	90.55	$17	533	10
514	VOLLEYBALL NET	53	24	684	2347.75	13	44.30	$14	316	-29
234	4-MAN CABIN TENT	16	20	139	2225.46	9	139.09	$209	67	4
512	VOLLEYBALL	47	18	611	2124.5	13	45.20	$18	251	-29
660	SNOW BOARD	7	7	146	1753.13	21	250.45	$161	156	0
222	2-MAN PACK TENT	9	12	276	1525.75	31	169.53	$59	287	3
516	VOLLEYBALL STAND	50	17	426	1488.25	9	29.77	$14	213	-33
412	19FT RAFT	1	1	30	1452.75	30	1452.75	"$5,390"	27	0
236	6-MAN CABIN TENT	3	6	71	1433.9	24	477.97	$195	245	3
408	14FT RAFT	4	4	16	1363.46	5	340.87	"$2,540"	13	0
564	MEN'S GOLF SET	7	10	448	1332.25	64	190.32	$89	214	3
216	INTL FRAME PACK	10	10	135	1304.25	14	130.43	$105	124	0
665	SNOW SHOES	246	246	313	1301.18	1	5.29	$30	18	0
200	FLANNEL BAG	31	66	207	1237.34	7	39.91	$50	80	35
413	WET SUIT	38	38	86	1077.7	3	28.36	$79	36	0
424	RIVER PFD	193	205	175	1029.5	1	5.33	$41	13	12
661	SANTA SUIT	27	33	67	1016.45	2	37.65	$70	54	6
404	11FT RAFT	4	6	40	1013.5	10	253.38	$670	38	2
401	INFLATABLE KAYAK	4	4	53	1001.87	13	250.46	$356	71	0
402	INFLATABLE KAYAK	4	4	56	997	15	249.25	$436	57	0
208	6FT FOAM MAT	34	38	264	976.5	8	28.72	$14	206	4
605	HIGH PERFORM SKI	15	15	76	950	5	63.33	$299	21	0
244	DINING FLY	8	16	104	874.25	13	109.28	$17	643	8
530	CROQUET	5	6	231	827.22	46	165.44	$20	851	1
223	2-MAN PACK TENT	3	5	111	814.86	37	271.62	$229	119	2
606	MONOSKI	4	4	64	798.99	16	199.75	$250	80	0
204	4LB SLEEPING BAG	7	24	157	718	22	102.57	$50	205	17
217	EXT. FRAME PACK	10	15	80	662.75	7	66.28	$125	53	5
407	16FT RAFT	3	3	8	687	3	229.00	"$3,880"	6	0
680	SKI GOGGLES	24	24	244	668.5	10	27.85	$6	465	0
532	HORESHOES	8	10	156	648.5	20	81.06	$15	540	2
218	8-MAN CABIN TENT	1	1	27	647.31	27	647.31	$450	144	0
209	6FT AIR MAT	6	17	72	640.75	12	106.79	$26	411	11
670	SKI GLOVES	33	33	225	638.5	7	19.35	$6	322	0
716	TELEMARK PACKAGE	22	22	67	632	3	28.73	$182	16	0
233	3-MAN CABIN TENT	9	17	65	611	9	67.89	$205	32	8
410	16FT RAFT	8	8	11	609.25	1	76.16	"$3,880"	2	0
202	2LB SLEEPING BAG	11	15	113	596.25	10	54.20	$50	108	4
518	SOFTBALL GLOVE	21	38	254	562.65	13	26.79	$18	148	17
405	12FT RAFT	1	1	16	556.75	16	556.75	"$1,067"	52	0
662	TOBOGGAN	8	8	186	552.1	22	61.46	$17	366	0
350	10 GALLON JUG	5	5	85	500.75	20	100.15	$39	257	0
528	TUG-O-WAR ROPE	2	2	114	485.5	57	242.75	$1	24275	0
345	5 GALLON JUG	10	10	100	464.5	10	46.45	$14	332	0
274	PROPANE LANTERN	6	10	52	474.75	9	79.13	$20	396	4
418	SCANOE	3	4	57	472.75	19	157.58	$384	40	1
320	60CT CHEST	8	8	40	470.08	5	58.76	$54	108	0
224	4-MAN PACK TENT	1	20	34	462.3	34	462.30	$240	192	19
911	W/ SKI ATTACHMENT	4	4	116	458.25	29	114.56	$56	204	0
303	COLEMAN STOVE	4	4	46	437.5	12	109.38	$57	192	0
302	PROPANE STOVE	9	9	67	432.36	7	48.04	$43	112	0
620	SKI POLES	64	64	172	416.31	3	6.50	$7	93	0
610	ALPINE SKIS	220	220	46	383.51	0	1.74	$140	1	0
248	TARP	45	45	67	351	2	7.71	$14	48	0
422	LAKE PFD	65	35	170	331.5	2	5.10	$15	34	-30
436	KAYAK PACKAGE	2	2	16	331.5	8	165.75	$650	25	0
423	SKI VEST	22	22	102	329.5	5	14.98	$14	107	0
432	WATER SKIES	4	6	42	318.65	11	79.66	$85	94	2
433	PADDLE FRAME	5	5	7	296.25	1	59.25	$100	59	0
275	BATTERY LANTERN	12	7	65	291.75	6	24.31	$20	122	-5
206	4FT FOAM MAT	10	12	104	265.25	10	26.53	$14	189	2
910	CAR RACK	4	4	61	260.88	15	65.22	$39	167	0
522	SOFTBALL BAT	12	11	125	258.25	11	21.52	$15	144	-1
210	CAMP COT	6	8	43	256.25	7	42.71	$40	106	2
111	BEACH CRUSER	1	6	40	244.8	40	244.80	$100	245	5
326	DUTCH OVEN	6	12	54	242.5	9	40.42	$22	184	6
207	4FT AIR MAT	8	8	26	231.16	4	28.90	$26	111	0
271	BINOCULARS	15	15	75	218	5	14.53	$18	79	0
667	ANKLE GAITERS	39	39	120	213.25	3	5.47	$8	68	0
912	WHBIKE ATTACHMENT	1	1	38	203.25	38	203.25	$39	521	0
504	BASKETBALL	7	7	42	198.5	6	28.36	$15	189	0
343	3 GALLON JUG	1	6	45	182.75	45	182.75	$15	1218	5
325	160QT CHEST	2	2	28	168.25	14	84.13	$59	142	0
416	WET SUIT BOOTIES	30	30	38	187	1	6.23	$11	57	0
425	PADDLE	152	152	86	167.75	0	1.10	$7	16	0
460	DRY SUIT	14	14	12	167.65	1	11.98	$75	16	0
534	LAWN DARTS	5	10	42	164.25	8	32.85	$7	469	5
505	FOOTBALL	3	3	27	153	9	51.00	$16	319	0
318	SMALL GRIDDLE	12	14	40	150.75	3	12.56	$12	105	2
220	BRISTOCONE PACK	12	26	21	148	2	12.33	$91	14	14
481	SPORT-YAK BOAT	2	2	10	147.5	5	73.75	$250	30	0
511	SOCCER BALL	7	8	36	141.25	5	20.18	$19	106	1
522	SOFTBALL	10	11	72	140.25	7	14.03	$10	140	1
501	MEGAPHONE	2	2	19	135	10	67.50	$39	173	0
304	BUTANE STOVE	8	9	19	133.5	2	16.69	$14	119	1
536	RING TOSS	5	5	32	133.25	6	26.65	$9	296	0
566	WOMEN'S GOLF SET	4	3	42	132	11	33.00	$89	37	-1
730	NORDIC BOOTS	160	160	33	127	0	0.79	$42	2	0
312	40QT CHEST	9	12	33	115.26	4	12.81	$33	38	3
414	WET JACKET	2	2	10	108.81	5	54.41	$45	121	0
913	W/SAILBOARD ATTACH	2	2	27	106.25	14	53.13	$39	136	0
608	ENCLOSED CAR RACK	10	10	11	101.25	1	10.13	$69	15	0
434	SWIM FINS	3	6	32	100.75	11	33.58	$31	108	3
310	40QT CHEST	4	5	14	90.04	4	22.51	$23	96	1
540	PARACHUTE	1	1	20	87.5	20	87.50	$50	175	0
319	LARGE GRIDDLE	16	16	16	85.5	1	5.34	$19	28	0
535	FRISBEE	4	6	20	75	7	18.75	$5	375	2
485	WAVE CUTTER	4	4	3	77	1	19.25	$485	4	0
307	30QT CHEST	3	2	10	75	3	25.00	$28	89	-1
710	NORDIC SKIS	140	140	10	73.75	0	0.53	$65	1	0
272	CAVING HELMETS	24	24	40	72.75	2	3.03	$12	25	0
278	CATALYTIC HEATER	4	6	16	66.75	4	16.69	$40	42	2
226	WP BIVY BAG	5	7	11	66.5	2	13.30	$86	15	2
308	FUEL FLASK	1	2	11	63.5	11	63.50	$4	1588	1
524	BASES (SET OF 3)	3	6	25	61	8	20.33	$8	254	3
313	CONFERENCE STOVE	8	8	4	60	1	7.50	$400	2	0
546	TWISTER	1	1	28	56.5	28	56.50	$5	1130	0
250	AX	2	2	8	55.25	5	27.63	$18	153	0
360	COOLER 20 GAL	5	5	7	54.75	1	10.95	$50	22	[illegible]
602	ICE CREAM MAKER	4	4	16	53.48	4	13.37	$38	35	[illegible]
226	BABY CARRIER PK	4	5	11	50	3	12.50	$40	31	[illegible]
340	6GAL CHEST	7	7	11	49.75	2	7.11	$18	40	[illegible]
273	CAVE HEAD LAMPS	24	24	12	48.25	1	2.01	$12	17	[illegible]
305	PEAK 1 STOVE	5	10	10	46.25	2	9.25	$32	29	[illegible]
720	NORDIC SKI POLES	75	75	30	46	0	0.61	$6	10	[illegible]
603	BABY STROLLER	5	5	17	46	3	9.20	$25	37	[illegible]
317	50QT CHEST	4	4	6	43.5	2	10.88	$37	29	[illegible]
279	FOLDING TABLE	4	4	5	43	1	10.75	$46	23	[illegible]
321	ROUND GRIDDLE	5	2	6	38.5	1	7.70	$19	41	[illegible]
411	RAFT HAND PUMP	10	22	8	36	1	3.60	$30	12	[illegible]
314	50QT CHEST	5	6	8	36	2	7.20	$38	19	[illegible]
461	THROW BAG	36	36	16	35	0	0.97	$14	7	[illegible]
615	SKIS AND BOOTS	42	42	2	35	0	0.83	$144	1	[illegible]
348	COOLER 10 GAL	4	4	8	34	2	8.50	$30	28	[illegible]
440	FLOAT BAG	6	6	6	32.5	1	5.42	$16	[illegible]	[illegible]
436	KAYAK HELMET	2	2	12	29.5	6	14.75	$18	[illegible]	[illegible]
254	HATCHET	1	2	11	28.5	[illegible]	28.50	[illegible]	[illegible]	[illegible]
[illegible]	NERF BALL	1	1	7	21.5	[illegible]	21.50	[illegible]	[illegible]	[illegible]
[illegible]	COLEMAN LANTERN	2	2	3	17.5	2	8.75	[illegible]	[illegible]	[illegible]
253	SPLITTING MAUL	2	1	1	16.5	[illegible]	8.25	[illegible]	[illegible]	[illegible]
[illegible]	HIBACHI	1	2	5	12.85	[illegible]	12.85	[illegible]	[illegible]	[illegible]
[illegible]	SHOT PUT	2	2	3	11.5	2	5.75	[illegible]	[illegible]	[illegible]
[illegible]	CAMP-A-GRILL	1	17	8	10.5	8	10.50	[illegible]	[illegible]	[illegible]
[illegible]	COOLER 17 GAL	4	4	1	10.25	0	2.56	[illegible]	[illegible]	[illegible]
[illegible]	AVALANCHE SHOVEL	6	6	2	10	0	1.67	[illegible]	[illegible]	[illegible]
341	1 GALLON JUG	[illegible]	[illegible]	4	8	4	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	STOCKING HATS	3	3	5	7.5	[illegible]	2.50	[illegible]	[illegible]	[illegible]
[illegible]	GAS HEATER	5	5	2	6	0	1.20	[illegible]	[illegible]	[illegible]
[illegible]	KICK BALL	2	2	2	5.75	1	2.88	[illegible]	[illegible]	[illegible]
[illegible]	COOLER 13 GAL	4	6	1	4	0	1.00	[illegible]	[illegible]	[illegible]
[illegible]	SHOVEL	1	2	1	3.5	1	3.50	[illegible]	[illegible]	[illegible]
437	KAYAK PADDLE	8	8	2	2.75	0	0.34	[illegible]	[illegible]	[illegible]
[illegible]	STYROFOAM PAD PK	2	2	2	2.5	1	1.25	[illegible]	[illegible]	[illegible]
344	4 GALLON JUG	6	3	0	0	0	0.00	[illegible]	0	[illegible]
[illegible]	SLEEP BAG COUPLER	2	2	0	0	0	0.00	[illegible]	0	[illegible]
[illegible]	PEAK 1 POT SET	2	2	0	0	0	0.00	[illegible]	0	[illegible]
342	2 GALLON JUG	2	8	0	0	0	0.00	[illegible]	0	[illegible]
438	KAYAK SPRAY SKIRT	2	2	0	0	0	0.00	[illegible]	0	[illegible]
125	BIKE TRAILER	1	1	0	0	0	0.00	$35	0	[illegible]
914	W/ BASKET	1	1	0	0	0	0.00	$105	0	[illegible]
616	SKIS AND POLES	148	148			0	0.00	$10		

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Table 4
Ranked By Per Item Percent Income

DEFINITIONS

Item Codes .... A proprietary number assigned by us for each equipment type
Description .... A word describing the item.
AQ .... An abbreviation for actual quantity of items counted during last inventory
HQ .... An abbreviation for historical quantity which is the quantity that has been the largest quantity available.
Total RF .... An abbreviation for total rental frequency which is the total number of times the total number of items within the group were rented during one year.
Total GI .... An abbreviation for total gross income generated by all items within the group.
PIRF .... An abbreviated form of per item rental frequency. This figure is a result of dividing the actual quantity into average rental frequency, yielding the average rental frequency of each item within a rental group.
PI .... An abbreviated form of per item income. This figure is a result of dividing item group's total income by the actual quantity.
Whsesc .... An abbreviated form for wholesale cost. Wholesale cost is equal to the gross price on individual item.
PI% income .... An abbreviated form of per item percent income return. This figure is a result of dividing the per item income by the wholesale cost. This figure indicates the percentage return on the investment.
OTB .... An abbreviation for open to buy. This figure is a result of subtracting the actual quantity from the historical quantity. The OTB indicates the quantity of items to be purchased and added to the inventory in order to maintain the historical quantity.

CODE	DESCRIPTION	AQ	HQ	TOTAL RF	TOTAL GI	PI RF	PI	WH COST	PI% INCOME ↓	OTB
534	TUG-O-WAR ROPE	2	2	114	485.50	57	242.75	1.00	24275	0
630	BOOTS	6	6	264	6315.76	45	1052.63	54.00	1949	0
308	FUEL FLASK	1	2	11	63.50	11	63.50	4.00	1588	1
343	3 GALLON JUG	1	6	45	182.75	45	182.75	15.00	1285	5
566	TWISTER	1	1	28	56.50	28	56.50	5.00	1130	0
244	DIVING FLY	8	16	104	874.25	13	109.28	17.00	643	8
509	SHOT PUT	2	2	3	11.50	2	5.75	1.00	575	0
664	TOBOGGAN	8	9	185	353.10	22	61.46	11.00	559	0
530	CROQUET	5	6	231	827.22	46	165.44	30.00	551	1
532	HORSESHOES	8	10	158	648.50	20	81.06	15.00	540	2
650	SKI BIBS	28	38	231	2525.84	8	90.55	17.00	533	10
912	W/BIKE ATTACHMENT	1	1	38	203.25	38	203.25	39.00	521	0
534	LAWN DARTS	5	10	42	164.25	8	32.85	7.00	469	5
660	SKI GOGGLES	24	24	244	668.50	10	27.80	6.00	465	0
208	6FT AIR MAT	6	17	72	640.75	12	106.79	26.00	411	11
274	PROPANE LANTERN	6	10	52	474.75	9	79.13	20.00	396	4
535	FRISBEE	4	6	29	79.00	7	19.75	5.00	395	2
807	NERF BALL	1	1	7	21.50	7	21.50	6.00	358	0
254	HATCHET	1	2	11	28.50	11	28.50	8.00	356	1
120	TANDEM BIKE	7	7	525	3466.72	75	495.25	150.00	330	0
679	SKI GLOVES	23	23	229	434.50	7	19.25	6.00	322	0
506	FOOTBALL	3	3	27	153.00	9	51.00	16.00	319	0
514	VOLLEYBALL NET	53	24	684	2347.75	13	44.30	14.00	316	-29
536	RING TOSS	5	5	32	133.25	6	26.65	8.00	296	0
911	W/ SKI ATTACHMENT	4	4	116	458.25	29	114.56	39.00	294	0
222	2-MAN PACK TENT	9	12	276	1525.75	31	169.53	59.00	287	3
124	MT BIKE	6	6	226	3927.75	38	654.63	232.00	282	0
350	10 GALLON JUG	3	3	90	300.75	30	100.15	39.00	257	0
311	4-BEACH	1	2	5	12.82	5	12.82	5.00	256	1
524	BASES (SET OF 3)	3	6	26	61.00	9	20.33	8.00	254	3
512	VOLLEYBALL	47	18	611	2124.50	13	45.20	18.00	251	-29
517	VOLLEYBALL SET	47	17	564	5386.75	12	114.82	46.00	250	-30
226	6-MAN CABIN TENT	3	6	71	1433.80	24	477.97	195.00	245	3
111	BEACH CRUISER	1	6	40	244.60	40	244.60	100.00	245	5
735	TELEMARK BOOTS	22	22	256	3314.48	12	150.66	65.00	232	0
564	MEN'S GOLF SET	7	10	446	1322.25	64	189.32	88.00	214	3
516	VOLLEYBALL STAND	50	17	428	1488.25	8	29.77	14.00	213	-33
238	6FT FOAM MAT	34	38	364	978.50	8	28.78	14.00	208	4
204	4.5 SLEEPING BAG	7	24	157	718.00	22	102.57	50.00	205	17
345	5 GALLON JUG	10	10	100	484.50	10	48.45	24.00	202	0
206	4FT FOAM MAT	10	12	104	268.25	10	26.83	14.00	192	2
303	COLEMAN STOVE	4	4	46	427.50	12	106.88	57.00	192	0
224	4-MAN PACK TENT	1	20	34	480.30	34	480.30	240.00	192	19
504	BASKETBALL	7	7	42	186.50	6	26.36	15.00	188	0
325	DUTCH OVEN	6	12	54	242.50	9	40.42	22.00	184	6
540	PARACHUTE	1	1	25	67.50	25	67.50	38.00	175	0
501	MEGAPHONE	2	2	18	135.00	10	67.50	39.00	173	0
910	CAR RACK	4	4	61	380.88	15	95.22	39.00	167	0
223	3.5 SLEEPING BAG	43	43	741	3552.45	17	82.62	53.00	165	0
688	SNOW BOARD	7	7	146	1753.13	21	250.45	161.00	156	0
250	AX	2	2	9	55.25	5	27.63	18.00	153	0
341	1 GALLON JUG	1	1	4	8.00	4	8.00	6.00	130	0
518	SOFTBALL GLOVE	21	38	284	602.88	13	28.71	16.00	148	17
520	SOFTBALL BAT	12	11	126	254.25	11	21.00	15.00	144	-1
228	8-MAN CABIN TENT	1	1	27	647.31	27	647.31	450.00	144	0
325	10QT CHEST	2	2	28	168.25	14	84.13	59.22	142	0
322	SOFTBALL	10	11	72	142.25	7	14.23	10.00	140	1
913	W/SAILBOARD ATTACH	2	2	27	106.25	14	53.13	39.00	136	0
600	SKI PACKAGE	216	216	7175	56706.41	33	262.51	207.00	131	0
443	WIND SURFER	10	10	280	3013.00	28	301.30	236.00	127	0
477	CANOE	11	10	277	5117.33	25	465.21	374.00	124	-1
216	INTL FRAME PACK	10	18	135	1304.25	14	130.43	105.00	124	8
276	BATTERY LANTERN	12	7	66	291.75	6	24.31	20.00	122	-5
414	WET JACKET	2	2	10	108.81	5	54.41	45.00	121	0
304	BUTANE STOVE	8	8	18	133.50	2	16.69	14.00	119	1
223	3-MAN PACK TENT	3	5	111	814.85	37	271.65	225.00	119	2
322	PROPANE STOVE	8	8	61	422.36	7	48.04	43.00	112	0
207	4FT AIR MAT	8	8	25	231.19	4	28.90	26.00	111	0
202	2.8 SLEEPING BAG	11	15	113	596.25	10	54.20	50.00	108	4
434	SWIM FINS	3	8	32	100.75	11	33.58	31.00	108	3
320	6QT CHEST	8	8	40	475.00	5	58.75	54.32	108	0
420	SKI VEST	22	22	102	329.50	5	14.98	14.00	107	0
511	SOCCER BALL	7	8	36	141.25	5	20.18	19.00	106	1
318	SMALL GRIDDLE	12	14	40	150.75	3	12.56	12.00	105	2
210	CAMP COT	6	8	43	259.25	7	43.21	43.00	100	2
422	LAKE PFD	80	38	170	331.50	2	4.80	5.00	96	-30
310	40QT CHEST	4	5	14	90.04	4	22.51	23.48	96	1
430	WATER SKIES	4	6	42	318.85	11	79.71	85.00	94	2
620	SKI POLES	64	64	172	416.31	3	6.50	7.00	93	0
715	X COUNTRY PACKAGE	88	88	1667	9895.06	19	112.45	124.00	91	0
307	28QT CHEST	3	2	10	75.00	3	25.00	28.00	89	-1

CODE	DESCRIPTION	AQ	HQ	TOTAL RF	TOTAL GI	PI RF	PI	WH COST	PI% INCOME ↓	OTB
306	CAMP-4-GRILL	1	17	8	10.50	8	10.50	12.00	88	16
606	MONOSKI	4	4	64	796.90	16	199.23	250.00	80	0
200	FLANNEL BAG	31	66	207	1257.34	7	39.81	50.00	80	35
429	KAYAK HELMET	2	2	12	29.50	6	14.75	19.00	78	0
271	BINOCULARS	15	15	75	218.00	5	14.53	19.00	76	0
401	INFLATABLE KAYAK	4	4	53	1001.87	13	250.48	354.50	71	0
667	ANKLE GAITERS	38	38	120	213.25	3	5.47	8.00	68	0
234	4-MAN CABIN TENT	16	20	139	2225.46	9	139.09	208.00	67	4
217	EXTL FRAME PACK	10	15	68	693.75	7	69.38	105.00	66	5
248	TARP	40	46	81	351.00	2	8.78	14.00	63	6
403	PADDLE FRAME	5	5	7	296.25	1	59.25	100.00	59	0
402	INFLATABLE KAYAK	4	4	58	997.00	15	249.25	435.50	57	0
416	WET SUIT BOOTIES	30	30	38	187.00	1	6.23	11.00	57	0
661	SANTA SUIT	27	33	67	1016.45	2	37.65	70.00	54	6
405	12FT RAFT	1	1	16	566.75	16	566.75	1081.00	52	0
278	CATALYTIC HEATER	4	6	16	66.75	4	16.69	40.00	42	2
321	ROUND GRIDDLE	5	2	6	38.50	1	7.70	18.00	41	-3
418	SCANOE	3	4	57	472.75	19	157.58	394.00	40	1
340	8GAL CHEST	7	7	11	49.75	2	7.11	17.99	40	0
256	SHOVEL	1	2	1	3.50	1	3.50	9.00	39	1
312	40QT CHEST	9	12	33	115.28	4	12.81	33.00	39	3
663	STOCKING HATS	3	3	5	7.50	2	2.50	6.50	38	0
[illegible]	ICE CREAM MAKER	4	4	16	53.48	4	13.37	35.00	38	0
404	11FT RAFT	4	6	40	1013.50	10	253.38	670.00	38	2
564	WOMEN'S GOLF SET	4	3	42	132.00	11	33.00	88.00	37	-1
413	WET SUIT	38	38	95	1077.70	3	28.36	78.00	36	0
253	SPLITTING MAUL	2	1	1	16.50	1	8.25	23.00	36	-1
233	3-MAN CABIN TENT	9	17	85	611.00	9	67.89	209.00	32	8
277	COLEMAN LANTERN	2	2	3	17.50	2	8.75	27.00	32	0
508	KICK BALL	2	2	2	5.75	1	2.88	9.00	32	0
603	BABY STROLLER	5	5	17	46.00	3	9.20	29.00	32	0
276	BABY CARRIER PK	4	5	11	50.00	3	12.50	39.50	31	[illegible]
481	SPORT-YAK BOAT	2	2	10	147.50	5	73.75	250.00	30	0
317	36QT CHEST	4	4	6	42.50	2	10.63	37.46	28	0
305	PEAK 1 STOVE	5	10	10	46.25	2	9.25	33.00	28	[illegible]
348	COOLER 10 GAL	4	4	8	34.00	2	8.50	30.00	28	0
319	LARGE GRIDDLE	16	16	18	85.50	1	5.34	19.00	28	0
412	18FT RAFT	1	1	38	1452.75	38	1452.75	5365.00	27	0
406	KAYAK PACKAGE	2	2	16	331.50	8	165.75	652.00	25	0
372	CAVING HELMETS	24	24	40	72.75	2	3.03	12.00	25	0
408	13FT RAFT	7	4	88	4196.75	14	599.54	2545.00	23	-3
275	FOLDING TABLE	4	4	5	42.00	1	10.50	46.00	22	0
380	COOLER 20 GAL	5	5	7	54.75	1	10.95	50.00	22	0
605	HIGH PERFORM SKI	15	15	78	954.00	5	63.60	295.00	21	0
314	54QT CHEST	5	6	8	36.00	2	7.20	38.00	18	[illegible]
665	SNOW SHOES	246	246	313	1307.10	1	5.31	30.00	18	0
273	CAVE HEAD LAMPS	24	24	12	48.25	1	2.01	12.00	17	0
460	DRY SUIT	14	14	12	167.65	1	11.98	75.00	16	0
716	TELEMARK PACKAGE	22	22	67	632.00	3	28.73	182.00	16	0
425	PADDLE	152	152	85	167.75	0	1.10	7.00	16	0
915	STYROFOAM PAD RK	2	2	2	2.50	1	1.25	8.00	16	0
205	WP BIVY BAG	5	7	11	65.50	2	13.10	85.00	15	2
606	ENCLOSED CAR RACK	10	10	11	101.25	1	10.13	65.00	15	0
220	BRISTOCONE PACK	12	26	27	148.00	2	12.33	91.00	14	14
424	RIVER PFD	180	205	175	1035.50	1	5.75	43.00	13	[illegible]
408	14FT RAFT	4	4	18	1362.48	5	340.62	2560.00	13	0
440	FLOAT BAG	6	6	6	25.50	1	4.19	35.00	12	0
461	THROW BAG	36	36	16	25.00	0	0.69	6.00	11	0
720	NORDIC SKI POLES	75	75	30	46.00	0	0.61	6.00	10	0
411	RAFT HAND PUMP	18	22	8	36.00	1	2.00	20.00	10	4
368	COOLER 17 GAL	4	4	1	10.25	0	2.56	40.00	6	0
407	16FT RAFT	3	3	9	687.00	3	229.00	3660.00	6	0
684	AVALANCHE SHOVEL	6	6	2	10.00	0	1.67	30.00	6	0
465	WAVE CUTTER	4	4	3	77.00	1	19.25	485.00	4	0
280	GAS HEATER	5	5	2	6.00	0	1.20	35.00	3	0
364	COOLER 13 GAL	4	6	1	4.00	0	1.00	36.00	3	2
410	16FT RAFT	8	8	11	609.25	1	76.16	3660.00	2	0
730	NORDIC BOOTS	160	160	33	127.00	0	0.79	42.00	2	0
313	CONFERENCE STOVE	8	8	4	60.00	1	7.50	405.00	2	0
610	ALPINE SKIS	220	220	48	383.01	0	1.74	142.00	1	0
437	KAYAK PADDLE	8	8	2	2.75	0	0.34	28.00	1	0
710	NORDIC SKIS	140	140	10	73.75	0	0.53	65.00	1	0
615	SKIS AND BOOTS	42	42	2	35.00	0	0.83	194.00	0	0
344	4 GALLON JUG	6	3	0	0.00	0	0.00	20.00	0	-3
201	SLEEP BAG COUPLER	2	2	0	0.00	0	0.00	40.00	0	0
332	PEAK 1 POT SET	2	2	0	0.00	0	0.00	39.00	0	0
342	2 GALLON JUG	2	8	0	0.00	0	0.00	1.00	0	6
438	KAYAK SPRAY SKIRT	2	2	0	0.00	0	0.00	35.00	0	0
126	BIKE TRAILER	1	1	0	0.00	0	0.00	220.00	0	0
914	W/ BASKET	1	1	0	0.00	0	0.00	30.00	0	0
616	SKIS AND POLES	148	148			0	0.00	160.00	0	0

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TABLE 5
UNIVERSITY OF CALGARY DATA

FIGURE 1
RANKED BY ITEM CODE

↓ ITEM CODE	DESCRIPTION	AQ	TOTAL RF	TOTAL GI	PI RF	PI
1	BICYCLES	18	1127	11622	62.61	645.67
2	SMALL TENT	53	1655	8125	31.23	153.30
2	MEDIUM TENT	18	520	3464	28.89	192.44
2	LARGE TENT	28	1192	9617	42.57	343.46
2	SLEEPING BAGS	124	4700	20193	37.90	162.85
2	BACK PACKS	93	3215	10967	34.57	117.92
2	CLIMB/HIKE BOOTS	63	1787	6734	28.37	106.85
2	ROCK SHOES	45	1851	5002	41.13	111.16
2	CLIMBING HARNESSES	47	2242	4484	47.70	95.40
2	ALL HELMENTS	87	3129	4220	35.97	48.51
2	ROPES	15	1026	2051	68.40	136.73
2	CLOTHING	110	2416	4813	21.96	43.75
3	STOVES	68	1647	2933	24.22	43.13
4	WINDSURFERS	10	252	3350	25.20	335.00
4	CANOES	21	983	10110	46.81	481.43
4	RIVER KAYAKS	28	718	7726	25.64	275.93
4	SEA KAYAKS	9	196	3797	21.78	421.89
4	RAFTS	17	387	13473	22.76	792.53
4	WET SUITS	115	3116	13744	27.10	119.51
4	WET SUIT ACCESS.	142	2047	4074	14.42	28.69
6	CRAMPONS	51	763	2561	14.96	50.22
6	ICE AXES	64	2426	3690	37.91	57.66
6	AVALANCHE PEIPS	71	3652	10875	51.44	153.17
6	PULK-SHUTTLE	3	84	633	28.00	211.00
6	SNOWBOARDS	5	161	812	32.20	162.40
6	SNOWSHOES	25	363	1033	14.52	41.32
6	WINTER ACCESS.	205	4485	2691	21.88	13.13
7	TELEMARK SKIS	80	4170	14475	52.13	180.94
7	TELEMARK BOOTS	125	4687	15055	37.50	120.44
7	TELEMARK POLES	43	1845	1845	42.91	42.91
7	XC SKIS	130	3300	4942	25.38	38.02
7	XC BOOTS	130	3148	4712	24.22	36.25
9	MISCELLANEOUS	713	6517	1920	9.14	2.69

FIGURE 2
RANKED BY TOTAL RENTAL FREQUENCY

ITEM CODE	DESCRIPTION	AQ	↓ TOTAL RF	TOTAL GI	PI RF	PI
9	MISCELLANEOUS	713	6517	1920	9.14	2.69
2	SLEEPING BAGS	124	4700	20193	37.90	162.85
7	TELEMARK BOOTS	125	4687	15055	37.50	120.44
6	WINTER ACCESS.	205	4485	2691	21.88	13.13
7	TELEMARK SKIS	80	4170	14475	52.13	180.94
6	AVALANCHE PEIPS	71	3652	10875	51.44	153.17
7	XC SKIS	130	3300	4942	25.38	38.02
2	BACK PACKS	93	3215	10967	34.57	117.92
7	XC BOOTS	130	3148	4712	24.22	36.25
2	ALL HELMENTS	87	3129	4220	35.97	48.51
4	WET SUITS	115	3116	13744	27.10	119.51
6	ICE AXES	64	2426	3690	37.91	57.66
2	CLOTHING	110	2416	4813	21.96	43.75
2	CLIMBING HARNESSES	47	2242	4484	47.70	95.40
4	WET SUIT ACCESS.	142	2047	4074	14.42	28.69
2	ROCK SHOES	45	1851	5002	41.13	111.16
7	TELEMARK POLES	43	1845	1845	42.91	42.91
2	CLIMB/HIKE BOOTS	63	1787	6734	28.37	106.85
2	SMALL TENT	53	1655	8125	31.23	153.30
3	STOVES	68	1647	2933	24.22	43.13
2	LARGE TENT	28	1192	9617	42.57	343.46
1	BICYCLES	18	1127	11622	62.61	645.67
2	ROPES	15	1026	2051	68.40	136.73
4	CANOES	21	983	10110	46.81	481.43
6	CRAMPONS	51	763	2561	14.96	50.22
4	RIVER KAYAKS	28	718	7726	25.64	275.93
2	MEDIUM TENT	18	520	3464	28.89	192.44
4	RAFTS	17	387	13473	22.76	792.53
6	SNOWSHOES	25	363	1033	14.52	41.32
4	WINDSURFERS	10	252	3350	25.20	335.00
4	SEA KAYAKS	9	196	3797	21.78	421.89
6	SNOWBOARDS	5	161	812	32.20	162.40
6	PULK-SHUTTLE	3	84	633	28.00	211.00

FIGURE 3
RANKED BY TOTAL GROSS INCOME

ITEM CODE	DESCRIPTION	AQ	TOTAL RF	↓ TOTAL GI	PI RF	PI
2	SLEEPING BAGS	124	4700	20193	37.90	162.85
7	TELEMARK BOOTS	125	4687	15055	37.50	120.44
7	TELEMARK SKIS	80	4170	14475	52.13	180.94
4	WET SUITS	115	3116	13744	27.10	119.51
4	RAFTS	17	387	13473	22.76	792.53
1	BICYCLES	18	1127	11622	62.61	645.67
2	BACK PACKS	93	3215	10967	34.57	117.92
6	AVALANCHE PEIPS	71	3652	10875	51.44	153.17
4	CANOES	21	983	10110	46.81	481.43
2	LARGE TENT	28	1192	9617	42.57	343.46
2	SMALL TENT	53	1655	8125	31.23	153.30
4	RIVER KAYAKS	28	718	7726	25.64	275.93
2	CLIMB/HIKE BOOTS	63	1787	6734	28.37	106.85
2	ROCK SHOES	45	1851	5002	41.13	111.16
7	XC SKIS	130	3300	4942	25.38	38.02
2	CLOTHING	110	2416	4813	21.96	43.75
7	XC BOOTS	130	3148	4712	24.22	36.25
2	CLIMBING HARNESSES	47	2242	4484	47.70	95.40
2	ALL HELMENTS	87	3129	4220	35.97	48.51
4	WET SUIT ACCESS.	142	2047	4074	14.42	28.69
4	SEA KAYAKS	9	196	3797	21.78	421.89
6	ICE AXES	64	2426	3690	37.91	57.66
2	MEDIUM TENT	18	520	3464	28.89	192.44
4	WINDSURFERS	10	252	3350	25.20	335.00
3	STOVES	68	1647	2933	24.22	43.13
6	WINTER ACCESS.	205	4485	2691	21.88	13.13
6	CRAMPONS	51	763	2561	14.96	50.22
2	ROPES	15	1026	2051	68.40	136.73
9	MISCELLANEOUS	713	6517	1920	9.14	2.69
7	TELEMARK POLES	43	1845	1845	42.91	42.91
6	SNOWSHOES	25	363	1033	14.52	41.32
6	SNOWBOARDS	5	161	812	32.20	162.40
6	PULK-SHUTTLE	3	84	633	28.00	211.00

FIGURE 4
RANKED BY PER ITEM INCOME

ITEM CODE	DESCRIPTION	AQ	TOTAL RF	TOTAL GI	PI RF	↓ PI
4	RAFTS	17	387	13473	22.76	792.53
1	BICYCLES	18	1127	11622	62.61	645.67
4	CANOES	21	983	10110	46.81	481.43
4	SEA KAYAKS	9	196	3797	21.78	421.89
2	LARGE TENT	28	1192	9617	42.57	343.46
4	WINDSURFERS	10	252	3350	25.20	335.00
4	RIVER KAYAKS	28	718	7726	25.64	275.93
6	PULK-SHUTTLE	3	84	633	28.00	211.00
2	MEDIUM TENT	18	520	3464	28.89	192.44
7	TELEMARK SKIS	80	4170	14475	52.13	180.94
2	SLEEPING BAGS	124	4700	20193	37.90	162.85
6	SNOWBOARDS	5	161	812	32.20	162.40
2	SMALL TENT	53	1655	8125	31.23	153.30
6	AVALANCHE PEIPS	71	3652	10875	51.44	153.17
2	ROPES	15	1026	2051	68.40	136.73
7	TELEMARK BOOTS	125	4687	15055	37.50	120.44
4	WET SUITS	115	3116	13744	27.10	119.51
2	BACK PACKS	93	3215	10967	34.57	117.92
2	ROCK SHOES	45	1851	5002	41.13	111.16
2	CLIMB/HIKE BOOTS	63	1787	6734	28.37	106.85
2	CLIMBING HARNESSES	47	2242	4484	47.70	95.40
6	ICE AXES	64	2426	3690	37.91	57.66
6	CRAMPONS	51	763	2561	14.96	50.22
2	ALL HELMENTS	87	3129	4220	35.97	48.51
2	CLOTHING	110	2416	4813	21.96	43.75
3	STOVES	68	1647	2933	24.22	43.13
7	TELEMARK POLES	43	1845	1845	42.91	42.91
6	SNOWSHOES	25	363	1033	14.52	41.32
7	XC SKIS	130	3300	4942	25.38	38.02
7	XC BOOTS	130	3148	4712	24.22	36.25
4	WET SUIT ACCESS.	142	2047	4074	14.42	28.69
6	WINTER ACCESS.	205	4485	2691	21.88	13.13
9	MISCELLANEOUS	713	6517	1920	9.14	2.69

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TABLE 6
BYU OUTDOORS UNLIMITED
INCOME AND EXPENCE SUMMERY
1980-1988

ACCOUNT DESCRIPTION	1980 1982 OUTDOOR PROGRAM WAS PART OF GAMES CENTER				1983 TO PRESENT OUTDOOR PROGRAM IS AN INDEPENDANT UNIT WITH FULL TIME ADMINISTRATORS.										
	1980-81	% DIF	1981-82	% DIF	1982-83	% DIF	1983-84	% DIF	1984-85	% DIF	1985-86	% DIF	1986-87	% DIF	1987-88
REVENUES															
INTEREST INCOME	$290	1.09	$317	0.91	$289	0.93	$270	1.70	$460	0.81	$374	1.23	$459	1.07	$489
RENTAL FEES	$46,704	1.11	$51,960	1.07	$55,543	1.07	$59,630	1.18	$70,450	0.93	$65,750	1.08	$71,134	1.14	$81,312
SKI RENT FEES INCOME	$0		$24,527	1.43	$35,085	1.02	$35,751	0.67	$23,832	1.42	$33,872	1.18	$39,894	1.20	$47,913
TOTAL RENTAL FEES	$46,704	1.64	$76,487	1.18	$90,628	1.05	$95,381	0.99	$94,282	1.06	$99,629	1.11	$111,028	1.16	$129,225
MERCHANDISE	$1,527	0.76	$2,686	2.19	$5,888	0.93	$5,484	3.19	$17,476	3.34	$58,284	1.68	$97,792	1.02	$100,088
REPAIR/REPLACE EQUIP.	$1,971	1.47	$2,889	0.72	$2,084	4.41	$9,189	1.17	$10,737	0.80	$8,629	0.71	$6,130	1.45	$8,894
REPAIR GENERAL PUBLIC	$0		$0		$0		$2,353	1.54	$3,613	1.80	$6,500	1.76	$11,482	1.08	$12,374
TOTAL REPAIR INCOME	$1,971	1.47	$2,889	0.72	$2,084	5.54	$11,542	1.24	$14,350	1.05	$15,130	1.16	$17,611	1.21	$21,268
PROGRAM INCOME	$0		$311	37.13	$11,546	1.63	$18,808	0.99	$18,680	0.75	$14,052	0.54	$7,525	1.35	$10,164
OVER/SHORT	$0		$0		$0		$83	-1.26	($105)	1.10	($115)	0.12	($14)	-4.19	$58
OTHER INCOME	$0		$0		$0		$6,731	0.00	$0		$0		$0		$147
TOTAL REVENUES	$52,202	1.58	$82,690	1.34	$110,435	1.25	$138,299	1.05	$145,142	1.29	$187,363	1.25	$234,402	1.12	$261,439
EXPENSES															
FULL TIME SALARIES	$0		$0		$18,000	1.06	$19,080	1.09	$20,700	1.17	$24,124	1.17	$28,244	1.61	$45,335
PART TIME WAGES	$23,422	1.15	$26,967	1.15	$31,019	1.15	$35,706	1.09	$38,834	1.41	$54,782	1.08	$59,309	1.17	$69,425
SALARY BENEFITS	$0		$0		$4,500	1.06	$4,770	1.08	$5,175	1.15	$5,930	1.35	$8,009	1.66	$13,312
TELEPHONE	$274	1.73	$474	1.70	$806	1.51	$1,215	1.01	$1,230	1.13	$1,393	1.34	$1,862	0.90	$1,684
REPAIRS AND MAINTENANCE	$2,807	1.01	$2,835	0.86	$2,436	0.91	$2,223	0.18	$403	1.00	$402	2.99	$1,203	0.45	$541
OPERATING EQUIPMENT	$302	0.27	$84	4.64	$390	5.83	$2,275	0.76	$1,726	1.64	$2,830	2.78	$7,877	1.56	$12,307
TRAVEL	$0		$0		$500	1.00	$501	1.92	$964	3.23	$3,113	1.15	$3,566	0.88	$3,146
INFO. SYSTEMS SOFTWARE	$0		$0		$0		$0		$0		$0		$200	0.61	$123
FOOD & ENTERTAINMENT	$0		$0		$0		$0		$197	0.21	$42	4.31	$181	1.67	$302
ADVERTISING	$0		$0		$2,975	0.97	$2,883	0.97	$2,802	1.52	$4,250	0.58	$2,488	0.56	$1,403
RENTAL EQUIPMENT	$9,140	6.45	$58,967	0.50	$29,602	0.67	$19,780	0.99	$19,595	1.11	$21,661	1.24	$26,856	0.89	$23,838
OUTDOOR PROGRAMS	$0		($200)		$7,770	1.76	$13,711	0.79	$10,782	0.56	$5,996	0.77	$4,595	1.70	$7,823
ON SITE IMPROVEMENT	$0		$482	0.61	$294	0.46	$136	4.56	$620	0.01	$7		$2,879	0.16	$453
OTHER EXPENSES	$1,666	4.66	$7,764	1.22	$9,497	1.36	$12,955	0.20	$2,556	2.39	$6,103	0.67	$4,063	1.41	$5,730
ADM CAPITAL EQUIPMENT	$627	1.49	$934	1.37	$1,276	0.62	$790	1.53	$1,209	1.28	$1,550	1.60	$2,487	0.99	$2,474
RETAIL MERCHANDISE	$2,922	0.46	$1,352	6.23	$8,420	0.97	$8,193	1.11	$9,082	4.62	$41,952	1.90	$79,657	0.77	$61,545
TOTAL EXPENSE	$41,160	2.42	$99,659	1.18	$117,501	1.06	$124,218		$115,875	1.50	$174,151	1.34	$233,556	1.07	$249,441
NET INCOME	$11,042	-1.54	($16,969)	0.42	($7,066)	-1.99	$14,081	2.08	$29,267	0.45	$13,212	0.06	$846	14.18	$11,998
UNIV. ASSESSMENTS															
RENT ASSESSMENT	$2,400	1.10	$2,640	3.41	$9,000	1.59	$14,269	1.24	$17,724	0.65	$11,439	0.95	$10,845	1.02	$11,025
ADM. OVERHEAD ASSMT.	$4,050	1.11	$4,500	0.84	$3,772	11.17	$42,150	0.53	$22,234	0.84	$18,570	1.49	$27,757	1.32	$36,540
NET INCOME AFTER UNIVERSITY ASSESSMENTS	$4,592	-5.25	($24,109)	0.82	($19,838)	2.13	($42,330)	0.25	($10,691)	1.57	($16,797)	2.25	($37,756)	0.94	($35,567)

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APPENDIX A

CONFERENCE PRESENTATIONS AND EVENTS

1988 National Conference on Outdoor Recreation

THURSDAY, NOVEMBER 10

7:00 a.m. - 5:00 p.m.	Pre-Conference Workshops
7:00 a.m. - 9:00 p.m.	Conference Headquarters Open, 2nd Floor, Main Lobby, Lory Center
4:00 - 6:00 p.m.	Conference Registration, 2nd Floor, Main Lobby, Lory Center
6:00 - 8:00 p.m.	Opening Banquet, Middle Ballroom, Lory Center
7:00 p.m.	Keynote Speaker: Bill March "Where We've Been, Where We Are, Where We Are Going" Middle Ballroom, Lory Center
8:00 p.m.	Al Kesselheim, Marypat Zitner "Wilderness Odyssey: A Year in the North - Across Canada by Canoe" Middle Ballroom, Lory Center

FRIDAY, NOVEMBER 11

7:00 - 8:00 a.m.	Continental Breakfast/Roundtable Discussions, West Ballroom, Lory Center 1. "How to Better Network Among Various Associations: NACA, NIRSA, NRPA, ACU-I, AAHPERD" Facilitator: David Webb, Brigham Young University, Utah 2. "Cooperative Trip Planning" Facilitator: Mike Ruthenberg, University of San Diego
7:00 - 8:30 a.m.	Conference Registration, 2nd Floor, Main Lobby, Lory Center
7:00 a.m. - 9:00 p.m.	Conference Headquarters Open, 2nd Floor, Main Lobby, Lory Center
8:00 a.m. - 5:00 p.m.	Hospitality Suite Open, Room 202-204, Lory Center

8:00 - 9:15 a.m. Session I

"Tearing Down the Walls: Outdoor Recreation Experiences for People With Disabilities" - Part I

This session will introduce the programs of the Cooperative Wilderness Outdoor Group (C.W. Hog) and the Veterans National Winter Sports Clinic. Multimedia presentations and lectures will be used to illustrate the respective programs. A discussion of the building process that results from participation in outdoor recreation adventure programs, especially as it relates to sociopsychological implications, will follow.

Presenters: Conner Shepherd, Ph.D., Associate Professor, Dept. of PER, Mesa College, Colorado

Sandy Trombetta, Chief R.T., Director of Veterans National Winter Sports Clinic, V.A. Hospital

Tom Whittaker, Director, C. W. Hog Location: Room 203-205

"Using the Group Dynamics Questionnaire to Pinpoint Positive and Negative Dynamics of Your Groups"

The need for increased professionalism in outdoor recreation has forced the program staff to take a good hard look at their organization. One method of evaluation is use of the group dynamics questionnaire. In this session, participants will fill out the questionnaire, learn to score and interpret the results, and discuss appropriate times to use it.

Presenter: Maurice Phipps, Ph.D. Cal Poly State University, San Luis Obispo

Location: Room 207-209

"Working With Vendors: The Do's and Don'ts"

With the increasing price of recreation equipment, outdoor programmers are looking closely at the most economical ways to outfit their programs. This session will explore ways to find wholesale resources and how to establish wholesale accounts. We will also discuss the do's and don'ts of vendor relationships, business procedures and terminology, and how to work/-shop the trade shows.

Presenter: Al Gunter, Summit Sports Co.

Location: Room 220-222

"Beyond the Walls of Women and Nature"

This lecture will deal with the history of the role of women paralleled within the history of nature. A discussion of the educational potentials within perceived philosophical roles of nature will follow.

Presenter: Anne Scott, doctoral candidate, Oklahoma State University

Location: Room 224-226

"Adventure Travel in Developing Countries"

With outdoor programs spreading beyond the traditional limits of a Canyonlands backpacking trip or Delaware River canoe trip, the outdoor programmer needs to be aware of what a more involved trip entails. Outings beyond U.S. borders are growing in popularity, but what does it take to organize such an adventure? This session will explore language barriers, passports and visas, staying healthy, public transportation, thefts, money exchange, budget motels, trekking, equipment, cultural differences and attitudes, travel partners, etc.

Presenter: Pat Rastall, Assistant Director, Pingree Park Field Campus, Colorado State University

Location: Room 228

"Outdoor Programming in the Southern United States"

Outdoor programs are dependent upon the region in which they exist, so much so that we may never consider what is going on in other areas. This session will present the results of a survey sent to 100 four-year institutions in 13 southern states. Of 68 responses, 56 had some type of outdoor recreation program. Special emphasis will be given to equipment rental and off-campus offerings. Materials from the responding programs will also be provided.

Presenters: Dr. Jim Gilbert, Assistant Professor of HPER Department, University of Mississippi

Wayne Taylor, HPER Outdoor Education Instructor, Dept. of Health, Physical Education and Recreation, University of Mississippi

Location: Room 230

9:30 a.m. - 5:30 p.m. Exhibit Hall Open, East Ballroom, Lory Center

9:30 a.m. - 10:45 a.m. Session II

"Tearing Down the Walls: Outdoor Recreation Experiences For People With Disabilities" - Part II

Location: Room 203-205

"Operating A College-Based Rafting Program"

This session will present basic information no operating a rafting program. Information presented will include guide selection, training, equipment selection, safety, commercial vs. private status, and trip announcements. In addition, we will discuss how you can determine if it is feasible for you to initiate your own program.

Presenter: Gary Ratcliff, Director, Mesa College Outing Program, Colorado

Location: Room 220-222

"Project Spirit: A Different Approach To Adventure Based Therapy"

This session is geared toward the programmer working with children and adolescents in a psychiatric/substance abuse setting. We will look at different, innovative ways to program a ropes course and integrating outdoor/adventure based activities into the hospital. The session will address the growing problem of drug abuse, suicide, and depression in teenagers from an outdoor perspective.

Presenter: Jim Garrett, Coordinator of Adventure Based Therapy, Charter Hospital of Augusta, Georgia

Location: Room 224-226

"Outfitters vs. Outdoor Programs: Dealing With The Issue of Unfair Competition"

This will be a panel discussion analyzing the recent Idaho situation in which private outfitters have attempted to introduce state legislation to limit and curtail outdoor program activities in higher education. The issues involved are unfair competition in outfitting, definition of educational vs. commercial activity, access to wild areas, appropriateness of renting equipment to the general public, commercial licensing, and the role of non-profit recreational programs on public land.

Presenters: Jim Rennie, University Program Coordinator, University of Idaho

Randy Miller, Director of Outdoor Adventure Program, Boise State University, Idaho

Location: Room 228

"Leadership - The Development of Self Concept" - Part I

This session outlines a leadership development model which can assist you in the design and facilitation of a leadership program. A means for increasing participant's self concept and self esteem will be presented. An opportunity will be provided to explore your personal strengths and effectiveness, two components in the development of self esteem. This awareness can be extended to assess the personal strengths and tendencies of your participants. The model's practical application will be demonstrated from uccessful pilot projects initiated in selected high schools and adult leadership workshops from 1985 to 1988.

Presenter: Rick Matishak, President, Rick Matishak Consulting Services

Location: Room 230

11:00 a.m. - 12:15 p.m. Session III

"Adaptive Skiing For Disabled Students"

This session deals with life beyond walls for handicapped/disabled students. Adaptive skiing is a program designed to get students outdoors during winter months. Each sled skier is assigned to buddy teams with an abled person who is an average or above skier. This program breaks the barriers between the abled and disabled skiers on campus.

Presenters: Tom Hover, Director, Student Programs

Clay Chivers, Coordinator, Outdoor Recreation, Utah Valley Community College

Location: Room 203-205

"Outward Bound Leadership Model: An Exploratory Study of Leadership Variables"

This presentation will provide the results of an exploratory study done to test a conceptual model of potential leadership variables which related to student course outcomes. The leadership styles, personality, gender, and previous soft skills training, experience and education of Colorado Outward Bound School instructors served as the focus for this study.

Presenter: Dr. Natalie L. Bartley, Ed.D., Management Training Center, Coordinator, Model Outdoor Recreation Program, USAF, Mountain Home Air Force Base, Idaho

Location: Room 207-209

"Certifying Student Instructors Using a Unique And Successful Staff Training Program"

Most university-based outdoor programs rely heavily on student instruction. But how do we monitor the student instructor's qualifications and abilities? In this session, ideas will be presented regarding how to expand outdoor program offerings through the implementation of a unique and successful staff training program. The results of this training program, using a certification process, can receive tremendous support from campus administration as it significantly increases the quality and safety of student-led trips.

Presenter: Gary Nielsen, Director of Outdoor Recreation, Colgate University, New York

Location: Room 220-222

"Challenge By Choice: Who's Adventure Is It Anyway?"

This session will explore the philosophy of challenge by choice (CBC), including the issues of informed consent, the feminine and masculine qualities of adventure leadership, perceived vs. real risk, and the structuring of adventure programs and activities to reflect the CBC philosophy.

Presenter: Dr. Gary Nussbaum, Associate Professor, Radford University, Virginia; Trainer, Project Adventure

Location: Room 224-226

"Four Seasons of Denali"

This is a slide presentation describing the principal peaks and climbing areas of interest in the Alaska Range. A present-day climb of Denali (Mt. McKinley) and the associated problems of rescue, sanitation, and overuse are included among the slide. The program concludes with a multi-media presentation evoking the passage of the four seasons in the wilderness areas surrounding Denali.

Presenter: Roger Robinson, Mountaineering Ranger,
Roger Robinson Photography

Location: Room 228

"Leadership - The Development of Self Concept" - Part II

Location: Room 230

12:15 - 1:30 p.m. Lunch on your own

1:30 - 2:45 p.m. Session IV

"Eagle Mount - Montana's Premier Handicapped Outdoor Recreation Program"

This is an overview of Eagle Mount, including programs for all disabilities in alpine and cross-country skiing, horseback riding, backpacking, rafting, climbing, and swimming. Also included will be the newest program (Big Sky Kids) for children and teens with cancer. This is an exciting, informative, and moving presentation.

Presenter: Curt Shirer, Ph.D., Recreation Coordinator,
Department of Health and Human Development,
Montana State University

Location: Room 203-205

"That Wonderful Thing We Call Change"

In outdoor education/adventure based education, we assume individual change will occur as a result of our efforts and that change is a good and wonderful thing. We often do this without adequately understanding the change process. In this session we will examine and compare two models of the change process and apply them to outdoor, adventure based education.

Presenter: Dr. Robert B. Vander Wilt, Chairperson
of Experiential Education, Mankato State
University, Minnesota

Location: Room 207-209

"Communicating And Helping Skills For Outdoor Leaders"

Interpersonal and intergroup communication: Complex and powerful. We will investigate styles, patterns, and effective techniques for expressing ourselves and will learn and practice simple skills which enable us to assist others to reach their own personal understanding. We will discuss and use small talk, straight talk, search talk, control talk, the awareness wheel, and Carkuff's helping skills. The workshop will be highly participative; a great learning environment for all of us who work with groups.

Presenter: Kristen Jacobsen, Director, Outdoor Leadership Program, University of California -
Santa Cruz

Location: Room 220-222

"Tree Climbing - A New World To Explore"

In the search for new activities, we sometimes overlook the most obvious. One recreation resource that can be found in almost any area of the country is the tree. Whether the common cottonwood or the mighty redwood, it can probably be climbed. This session will look at tree climbing as a sport/art form. We will discuss equipment and techniques, as well as expeditions to climb the world's largest trees, including the redwoods.

Presenter: Peter Jenkins, President, Tree Climbers
International

Location: Room 224-226

"Using Intuition In Managing Groups Safely Outdoors"

This presentation, used with great success in the Colorado Outward Bound School for the past several years, is designed to teach leaders how to pick up on the subtle signals from the environment, students and fellow staff to avoid accidents.

Presenter: Michael Lindsay, Program Director,
Colorado Outward Bound School
Location: Room 228

"Fear, Stress And Decision-Making In the Outdoor Setting"

This session will describe the types of fears commonly held by outdoor recreation participants and how these fears and stresses impact the decision-making ability of the participant and outdoor leader/instructor.

Presenter: Alan Ewert, Ph.D., Project Leader/Research Scientist, U.S. Forest Service

Location: Room 230

3:00 - 4:15 p.m.	Exhibit Hall Dedicated Time East Ballroom, Lory Center
4:30 - 6:00 p.m.	"The Lawyer's Role in Risk Management or Mismanagement" Presenter: Tim Boone, Esq., Sellman & Boone, Columbus, Ohio Lory Student Center Theatre
6:00 - 8:00 p.m.	Dinner - on your own
8:00 p.m.	"Freeing the Salathe Wall" - Slide Show Presenter: Todd Skinner and Paul Piana Middle Ballroom, Lory Center

SATURDAY, NOVEMBER 12

7:00 - 8:00 a.m.	Continental Breakfast/Roundtable Discussions West Ballroom, Lory Center 1. "Western Regional Outdoor Recreation Conference Planning Session" Facilitator: David Webb, Brigham Young University, Utah 2. "Future Trends in Outdoor Recreation" Facilitator: Daryl Miller, Colorado State University
7:00 - 8:30 a.m.	Conference Registration 2nd Floor, Main Lobby, Lory Center

8:00 a.m. - 5:00 p.m. Hospitality Suite Open, Room 202-204, Lory Center

8:00 - 9:15 a.m. Session V

"Future Trends In Climbing"

We will look at the development of rock climbing competition worldwide, including a historical perspective, why competitions are growing, and future trends, nuts and bolts of organizing, marketing, soliciting prizes for, and officiating a bouldering contest. The session includes personal insights gained while developing and directing the Pocatello Pump, a regional contest hosted by Idaho State University.

Presenter: Scott Tyson, Recreation Specialist,
Outdoor Program, Idaho State University

Location: Room 203-205

"How To Design And Produce A Program Catalogue" -
Part I

The first session will be devoted to an examination of various publications, their specific strong and weak points, the planning and organization process, costs and coordination of catalogue design. The second session will be a hands-on workshop using Apple Macintosh Computers. Participants will learn the basics of desktop publishing and exactly what you need to get started. NOTE: Participation is limited, first come, first serve basis.

Presenters: Mike Moniz, Marketing Director, North
Jefferson County Parks and Recreation,
Denver, Colorado

Mike Ruthenberg, Outdoor Program
Coordinator, University of San Diego

Dave Secunda, Outdoor Program Coordinator,
University of Colorado - Boulder

Location: Room 207-209

"Successfully Adapting Financially Subsidized Outdoor Programs to 'Pay Their Own Way' Programs"

Current trends are causing outdoor programs to cover more or all of the outdoor programs' costs. This session will review the past and current outdoor funding sources and future trends. Methods for financial success in the

1990's will be suggested. Both Alf and Dave direct outdoor programs that cover all their expenses, each having an income/expense budget exceeding $250,000. Come see how it's done.

Presenters: Alf Skrastins, Outdoor Program Coordinator, University of Calgary, Canada

David Webb, Outdoor Program Coordinator, Brigham Young University, Utah

Location: Room 220-222

"Freshmen Wilderness Orientation Programs: Model Programs Across the Country"

Freshmen participate in wilderness orientation programs in colleges and universities across the country. A recent study (O'Keefe 1988) looked at these programs and developed models to exemplify the diversity and similarity among these wilderness orientation programs. This workshop will explore the role these programs play within the college or university with whom they are affiliated and the impact they have on students who participate. The goals of these programs are key to their impact and value; to the institution as a whole and to the students as individuals.

Presenter: Marty O'Keefe, faculty member, Outdoor Recreation Department, Unity College, Maine

Location: Room 224-226

"Cooperative Communication Adventures" - Part I

This session introduces an electronic collection of information and communication resources which will allow outdoor recreation professionals, educators, students, and the general public to have an interactive accessibility. This collection will include not only text and numerical data, but graphics, pictures, video, sounds and music as well.

Presenter: Gary Grimm, Interactive Multimedia Consultant, Boise, Idaho

Location: Room 228

"Beyond Recreation: Our Classroom Is Wild America"

Join us to find out how Audubon Expedition Education differs from traditional educational programs. Learn how we operate in an investigative, experiential camping community to holistically study aspects of each environment as geology, natural history, American history, anthropology, folklore, music and art while evaluating our own personalities and philosophies of education and living. By concensus, the students and guides who constitute each expedition determine the group's direction. We will share our techniques for community building in order to learn to live cooperatively within the human ecosystem, as well as the global ecosystem.

Presenter: Barry Auskern, Instructor/Guide, National Audubon Society Expedition Institute

Location: Room 230

9:30 a.m. - 5:30 p.m. Exhibit Hall Open, East Ballroom, Lory Center

9:30 - 10:45 a.m. Session VI

"Put A Little Flavor In Your Outings!...Getting To Know The World Of Edible And Useful Wild Plants"

This session will be a slide presentation and discussion focusing on a wide variety of species of edible and useful wild plants that are easily identified in the field and can be used in family, community, and institutional outdoor recreation. It will also include a mini-workshop in which participants will make a personalized ink print field guide of selected species.

Presenter: Dr. Charles Chase, Dept. of Health, Physical Education, and Recreation, University of Mississippi

Location: Room 203-205

"How To Design And Produce a Program Catalogue - Part II

Location: Room 207-209

"Artificial Rock Climbing Walls: An Innovative Approach"

Indoor climbing walls are increasingly popular in scholastic, university, and private recreation programs. Focusing on such walls, the participants will discuss construction, management, and programming ideas.

Presenter: Aram Attarian, MA, Department of Physical Education, North Carolina State University

Location: Room 220-222

"Expeditions: Risk vs. Rewards to University Outdoor Programs"

This session will explore the university-sponsored expedition...how to plan, organize, and carry it out. Setting goals, selecting leaders, developing a budget, putting a team together, selecting food, equipment, routes, liability and special waivers, pre-expedition training, and the value of the expedition to the university outdoor program curriculum will be included.

Presenter: Pat Rastall, Assistant Director, Pingree Park Field Campus, Colorado State University

Location: Room 224-226

"Cooperative Communication Adventures" - Part II

Location: Room 228

"Accidents In High Adventure Outdoor Pursuits"

How prepared are you and your staff to deal with accidents in the field? Through the analysis of past accidents, we can better prepare ourselves to deal with and even prevent future accidents. This session will look at past accidents through a step-by-step method. We will consider how and why the accident came about and what we might do to avoid a similar circumstance. We will also discuss guidelines to good judgment in the wild out-of-doors.

Presenter: Jerry Cinnamon, Professor, Outdoor Recreation, Unity College, Maine

Location: Room 230

11:00 a.m. - 12:15 p.m.	Exhibit Hall Dedicated Time East Ballroom, Lory Student Center
12:15 - 1:30 p.m.	Lunch - on your own

1:30 - 2:45 p.m. Session VII

"Winter Wilderness Travel And Camping"

Winter transforms our wilderness areas into places of incredible beauty, challenge, and enjoyment. At the same time, if one is unwise or unlucky, the wilderness can be extremely hostile, dangerous and unforgiving. This program focuses on describing the wilderness in winter and learning how to enjoy it safely.

Presenter: Norman Gilchrest, Associate Professor of
HPER, Baylor University

Location: Room 203-205

"Medical Problems On The River"

River trips have long been a popular component of outdoor programs. But these outings carry with them a very different, and to many of us unfamiliar, set of hazards. Accident management on river trips can be eased when leaders have sound understanding of the common illnesses and injuries unique to the environment. This session will highlight specific problems, their treatment, and new field-expedient equipment and kits for river medical emergencies.

Presenter: Jim Segerstrom, Paramedic, Director of
Training, Rescue 3 - Swiftwater Rescue
Training

Location: Room 207-209

"Status And Concerns Of Outdoor Programming"

This will be a discussion concerning issues relevant to outdoor programmers today, such as liability, competition/cooperation with other campus departments commercialization, certification, risk management, access to permits, etc. This is an open discussion format for all concerned professionals. Bring your questions and issues.

Presenter: Rod Neubert, U.U. Asst. Director for
Program Management, Cal Poly State
University, San Luis Obispo

Location: Room 220-222

"Outdoor Programming, Environmental Activism,
and Public Education: A Marriage Of Necessity"

250

Outdoor programs provide opportunities for people to experience numerous activities in a variety of environments. As users and as ecologically concerned individuals, programmers should share responsibility for protection of those environments. Most college/university students are concerned about environmental issues and many would be willing to contribute time to the resolution of issues except for the concern that it would delay them in achieving their degree. However, if students could earn course credit for environmental activism, they might be more willing to become involved. This session will provide a context for the presentation and discussion of ideas pertaining to the sort of coordination effort that has been described. Join us with your feelings and ideas on this and related issues.

Presenters: Peter Aldrich Bowler, Director,
Cooperative Outdoor Program

Terry Alan Hartig, doctoral candidate,
Program in Social Ecology, University
of California, Irvine

Location: Room 224-226

"Passages: Helping College Freshmen Matriculate Through Outdoor Adventure"

This workshop will describe the outdoor adventure program at the University of Puget Sound in which 50 student leaders accompany nearly 700 freshmen on their transition from high school to college. Featured will be a slide-music shows and discussion of a recently implemented research program studying changes in personal attributes of the student leaders.

Presenters: Bob Stremba, Ed.D., Director of
Counseling and Outdoor Programs

Loren Wilson, Passages Student Leader
University of Puget Sound

Location: Room 228

"Safety, Liability, Insurance And Outdoor Programs"

In this workshop we will discuss the direct and indirect relationship between a safety program for outdoor education programs and liability/risk management. We will also discuss some of the myths, misconceptions, and misinformation of outdoor education and the insurance industry. The workshop is designed to promote a clearer understanding of the insurance industry's perception of outdoor education and steps to that can be taken which will contribute to lower insurance premiums or better insurance coverage and risk management.

Presenters: Latien Chu, Finance Director

Tod Schimelpfenig, Safety and Training Manager, National Outdoor Leadership School

Location: Room 230

3:00 - 4:15 p.m. Session VIII

"How Video Can Benefit Outdoor Programs"

This session will be a presentation on the uses of video: as a promotional tool for attracting participants to outdoor programs, instructional use for the care of rental equipment, and teaching aids. A proposal for a cooperative production involving several outdoor programs will also be included.

Presenter: Brian Cass, President, Cass Productions

Location: Room 203-205

"Staff Training For Staff Satisfaction"

The growing pains associated with a changing program are something we all have to deal with at some time. As our outdoor program center expanded, communication and staff morale became problems. The process used to solve them resulted in a staff training program which we will present. Through exercises and discussion, potential problems and their solutions will be explored.

Presenters: Tessy Bray, Outdoor Program Coordinator

Laurel Hood, Outdoor Program Facilitator
Campus Recreation Outdoor Programs,
University of Calgary

Location: Room 207-209

"From Chaos to Caoc: How A Grassroots Outdoor Council Can Help Your Organization"

Minimizing duplication of services, saving costs and pooling resources were some of the motivations behind the development in 1983 of the Calgary Area Outdoor Council

(CACC). Five years later, this non-profit, volunteer run organization represents over 60 groups with 34,000 members who have a common interest in outdoor recreation, conservation, leadership and education. How could a council of this sort assist your organization to better meet the needs of your clients?

Presenter: Judy Breeze, Assistant Coordinator, CACC

Location: Room 220-222

"Solo Safari - Images From One Woman's Yearlong Journey Through Africa"

This is a multi-image production which takes the audience on a 10,000 mile journey through eastern and southern Africa, showing the natural and human diversity of eight African countries from a mountain biking and hitch-hiking perspective.

Presenter: Lynn Wisehart, Boise, Idaho

Location: Room 228

"Safety, Liability, Insurance And Outdoor Programs" - Part II

Location: Room 230

4:30 - 5:30 p.m.	"1990 Site Selection" Meeting Room 206, Lory Center
6:00 p.m.	Closing Banquet Middle Ballroom, Lory Center
7:30 p.m.	Keynote Address: Ann Bancroft "Steger International Polar Expedition" North Ballroom, Lory Center

SUNDAY, NOVEMBER 13

7:00 a.m. - 12 noon	Conference Headquarters Open 2nd Floor, Main Lobby, Lory Center
7:00 a.m. - 5:00 p.m.	Post-Conference Seminars

APPENDIX B

NATIONAL CONFERENCE ON OUTDOOR RECREATION
November 10-13, 1988

LIST OF CONFERENCE PARTICIPANTS

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APPENDIX C

BIOGRAPHICAL INFORMATION ON PRESENTERS

Barry Auskern: A National Audubon Society Expedition Institute guide in Sharon, Connecticut for the past five years. Barry is actively involved with wilderness issues in the Northeastern United States.

Dr. Natalie Bartley: Presently the Management Training Center Coordinator at the United States Air Force Model Outdoor Adventure Program at Mountain Home Air Force Base, Idaho. She has instructed for Pacific Crest Outward Bound School, and served as a mental health specialist with Salt Lake Valley Mental Health in Utah. She earned her doctorate from the University of Utah, and has many years in the experiential education field. She is a certified instructor of canoeing, kayaking, sailing, CPR, and advanced first aid.

Peter Bowler: The Director of the Cooperative Outdoor Program at the University of California at Irvine. He also teaches in the Department of Ecology and Evolutionary Biology, and does environmental programming through the Student Activities Office. His primary interests include wetland ecology, wilderness and public domain management, habitat preservation, and natural setting experiences.

Eric Bruner: Serves as the faculty member responsible for outdoor programming within the Department of Recreation/Leisure Studies at the University of Maine at Presque Isle. He is currently completing his Doctorate in Outdoor Experiential Education at the University of Northern Colorado.

Dr. Charles Chase: Dr. Chase's degree specialty is in Outdoor Education from the University of Northern Colorado. He has a background replete with outdoor experiences ranging from teaching wilderness survival to Green Berets and United States Astronauts to teaching Recreation and Outdoor Education courses at the university level. He is also involved in community recreation with local groups such as 4-H and the Scouting Programs. Chuck is currently an Assistant Professor in the Recreation Degree Program at the University of Mississippi.

Dr. Jerry Cinnamon: Educated as a geologist, he has been teaching, learning, and writing in association with the Outdoor Recreation/Education degree program at Unity

College in Maine for the last nine years. Within this program he has developed courses in environmental education focused on geology and meteorology, technical climbing and mountaineering leadership. Active in caving, mountaineering and sea kayaking for 30 years, has led to an interest in accidents and safety management. He is currently at work on a mountaineering leadership/work textbook.

Dr. Alan Ewert: Currently holds a position as Project Leader/ Research Scientist with the USDA-Forest Service. Prior to this, he was the Director of Professional development for Pacific Crest Outward Bound and an Assistant Professor at Ohio State University. He has been a Chief Instructor for Outward Bound and worked at Denali National Park as a mountaineering ranger. His current research topics include fear and anxiety in the outdoor setting, risk-taking behavior, and modeling for the adventure experience. He has an upcoming book, entitled Outdoor Adventure Pursuits: Models, Theories, and Foundations available through Publishing Horizons, Inc. in Columbus, Ohio.

Dr. Jim Gilbert: Presently the Coordinator of the Recreation Degree Programs and Assistant Chair of the Health, Physical Education, and Recreation Department at the University of Mississippi. His background includes 15 years as a physical education instructor in Kentucky, and has served as the Coordinator of the Special Needs Program (Therapeutic Recreation) in Greeley, Colorado. His degree specialty is Outdoor Education from the University of Northern Colorado.

Dr. Norman "Buddy" Gilchrest: An Associate Professor of HPER at Baylor University in Waco, Texas. At Baylor Buddy has taught a number of adventure activity courses including Outdoor Adventure Activities, Backpacking, Scuba Diving, Snow Skiing, and Advanced Bicycling. He has led student and adult groups travelling throughout the United States, Mexico and the Caribbean. His personal enjoyment of wilderness includes climbing each of the 67 peaks in the contiguous United States taller than 14,000 feet. Buddy believes that his greatest adventure has been to share his life with his wife Teresa, and his sons Eric, David and Allen.

Terry Hartig: A graduate student in the Program in Special Ecology at the University of California at Irvine. His research focuses on human interactions with natural environments and beneficial outcomes that arise from natural environment experiences. His research, teaching, and community service activities are largely motivated by concerns regarding human impacts on the natural environment.

Peter Jenkins: He started climbing trees in early childhood and later graduated to rock and mountain climbing while living in Estes Park, Colorado. When he moved to Atlanta, Georgia, the only big climbs available were the large oak, pine, and poplar trees. He started a tree service and served as an officer in the Georgia Arborist Association, a nonprofit trade organization. Regular climbing requests from clients who saw him "dance around in their trees" convinced him to start a recreational climbing school. Peter publishes Tree Climber, A Journal for Recreational and Professional Tree Climbing. He has appeared in many national publications and on several television programs.

Rick Matishak: Owns and operates a Human Resource Development Consulting Service in Edmonton, Alberta, where he and his associates facilitate workshops in Leadership and Management Development, Career and Life Assessment, Communication Effectiveness, Team Building and Stress Management. Rick's programming includes working with adults and youth building self-esteem in the outdoors.

Rod Neubert: An Associate Director for Program Management at Cal Poly State University in San Luis Obispo, California. He has been active in collegiate and commercial outdoor recreation for 20 years. Rod has owned a Horse Pack Station, White Water Rafting Company, and currently own and operate a 35 element Ropes Course. He currently manages six recreational programs for Cal Poly including an all volunteer Outdoor Program and an International Adventure Travel Program. Rod is also the chair of ACU-I Committee on Outdoor Programs.

Dr. Marty O'Keefe: Presently in her third year of teaching in the Outdoor Recreation Department at Unity College in Maine. Marty has just finished her doctorate at Boston University. Her dissertation research focused on Freshman Wilderness Orientation Programs in Higher Education. She enjoys working with troubled youth, group process skills, canoeing and kayaking, and numerous other aspects of outdoor recreation.

Dr. Curt Shirer: He earned a Ph.D. in Recreation Resource management from Texas A&M and is the recreation curriculum coordinator at Montana State University. He is an avid outdoorsman and a climber for 20 years. Advocate of a simple, self-reliant lifestyle. Lives west of Bozeman on the Gallatin River in a self-constructured home with his wife, four children, and a variety of livestock and pets.

Alf Skrastins: He currently is the Manager for the Campus Recreation Outdoor Program at the University of Calgary which he created in 1978. An outdoor enthusiasts, Alf has been teaching outdoor skills and leading trips for the past 18 years.

Dr. Bob Stremba: The Director of the Counseling Center and Co-Director of "Passages", the freshman wilderness orientation program, at the University of Puget Sound in Tacoma, Washington. An outdoor enthusiast, Bob has developed and leads a personal growth wilderness outings program at the University, which utilizes extended backpacking and sea kayaking trips for students to learn about themselves, others and the wilderness environment. He also serves as a consultant to universities and schools wishing to establish wilderness orientation programs.

Wayne Taylor: Currently is a graduate assistant at the University of Mississippi. His responsibilities include the managing of Ole Miss Outdoors, the open recreation component in the Department of Recreational Services, and teaching outdoor education classes with the Recreation Degree Program. His Master's from Southern Methodist University concentrated on Outdoor Education in Texas. Prior to coming to Ole Miss, Wayne managed the Outdoor Adventure Programs at Texas Tech University and also at the University of Texas at El Paso.

David Webb: Serves as the Outdoor Program Coordinator for Outdoors Unlimited at Brigham Young University. David has a B.S. and M.A.in Recreation Administration, Outdoor Education, and Community Education from Brigham Young University. He has been employed by the Ricks College Outdoor Program and has taught for the BYU Recreation Department. David holds certification as a white water rescue technician, a master windsurf instructor, a white water river guide, and a nordic ski instructor. When he is not administering or guiding, Dave enjoys spending time with his family, both in and out of the out-of-doors.